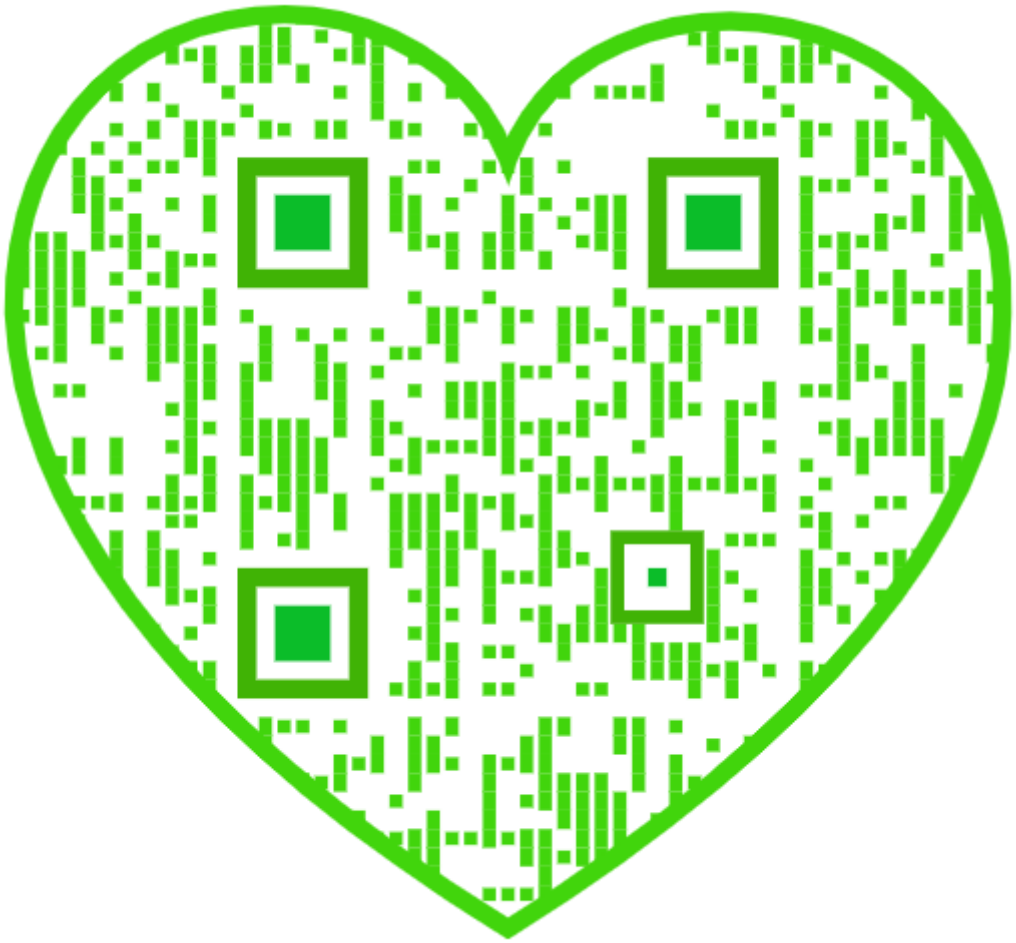
DEHYDRATING FOODS
FRUITS, VEGETABLES, FISH AND MEATS

A. LOUISE ANDREA



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DEHYDRATING FOODS

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Mrs. A. Louise Andrea

DEHYDRATING FOODS

FRUITS, VEGETABLES, FISH AND MEATS

THE NEW, EASY, ECONOMICAL AND SUPERIOR METHOD OF PRESERVING ALL KINDS OF FOOD MATERIALS

WITH A COMPLETE LINE OF GOOD RECIPES FOR EVERYDAY USE

By A. LOUISE ANDREA

LECTURER UPON FOODS AND COOKERY AT PANAMA-PACIFIC INTERNATIONAL EXPOSITION, SAN FRANCISCO, CALIFORNIA. OFFICIAL LECTURER UPON FOODS, COOKERY AND CANNING FOR NEW YORK INTERNATIONAL EXPOSITION, NEW YORK CITY. AWARDED P. P. I. E. DIPLOMA AND GOLD MEDAL AS LECTURER UPON FOODS AND INSTRUCTOR IN COOKERY. AUTHOR OF "HOME CANNING AND PRESERVING"

THE CORNHILL COMPANY

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A FOREWORD

THE NEW FOOD ECONOMY

We have passed through a long and trying experimental stage of saving foods by dehydration. At last, means and methods have not only been perfected, but are at the service of every one.

Dehydration may be accomplished easily and successfully, both in the kitchen and in commercial plants, — by the bushel or by the ton, as the case may be.

For several years patient and unceasing work has been done along this line in order to attain the desired results, and personally I acknowledge with grateful appreciation the kindly co-operation and suggestions from Messrs. George Hillard Benjamin, O. H. Benson, Woodford Brooks, Joseph S. Caldwell, H. C. Gore, S. C. Prescott, Lou D. Sweet, the late Waldron Williams, F. G. Wiechmann and other sincere and able investigators.

Moreover, in writing upon the development of dehydration in the United States, it is only just to pay a sincere tribute to the altruistic and laudable efforts of Mrs. Oliver Harriman in behalf of this beneficent work.

A. LOUISE ANDREA,
NEW YORK.

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DEHYDRATING FOODS

DEHYDRATING FOODS

CHAPTER I

REGARDING DEHYDRATION

The dehydration of foods is one of the most important considerations in the world. It is the means of preserving foods quickly, cheaply and perfectly, and it will save thousands of tons of garden, orchard and farm produce which have gone to waste hitherto.

By dehydration, all kinds of foods — fish, meats, fruits and vegetables, and even milk and eggs — may be reduced to a fraction of their original weight and bulk. Moreover, when properly dehydrated, the foods maintain not only their nutritive properties, but their flavorings and colorings as well, being far superior to canned products in this regard.

Those of us who have worked practically at dehydration and with dehydrated products realize that this art or science is bound to effect a revolution in our means and methods of food preservation, and interest in dehydration and appreciation of its possibilities are spreading rapidly throughout the world.

During my lectures upon foods and cookery during the past two years most of the questions coming from

the audiences were about dehydration, or "drying" as the majority consider it, while I have people calling at my testing kitchen almost daily regarding systems and methods, among them being visitors from Cuba, South American countries, Italy, France, Great Britain and Canada, in addition to those from all over the United States.

There is a very essential difference between drying and dehydration, and this fact must be recognized. As we know, all food materials are composed of myriads of tiny cells, these cells holding flavorings, colorings and nutrients, together with a large percentage of fluid — practically water. The problem has been how to extract the water from the cells without causing chemical changes and loss of essential principles.

Broadly speaking, dehydration is a method of extracting the water quickly without rupturing the membranes or cell walls. Thus only the water is taken away, and the volatiles, the flavoring essences, the colorings and the nutritive properties are left in the cells. It is just the principle of *osmosis* (a sweating, as it may be termed), and when the dehydrated or dehumidified products are soaked in water for a time their cells absorb moisture, and furnish, to all intents and purposes, fresh food materials which may be cooked and dealt with just as could be the original raw foods.

Drying, on the other hand, is a slow process, — so slow that the cell walls crack and open, allowing the volatiles and aromatics to escape and the coloring principles to change; hence the flavor and appearance of

dried products are not and cannot be equal to those of dehydrated products.

As tangible evidence of this we will consider grass and hay. Hay is dried grass, and even though you soak hay in water you cannot "restore" it, whereas dehydrated grass "comes back" fresh, green and succulent.

Let us take dried apples as another example. Dried apple pie is always dried apple pie, as every one can tell upon tasting it, whereas pie made from dehydrated apples yields a dish that is really fresh apple pie, and it cannot be distinguished from pie made with the fresh-cut fruit.

To emphasize still further the conspicuous merits of dehydrated fruits and vegetables, I have often served dehydrated products and strictly fresh ones at the same meal, and no one could tell which was which. Recently a food commissioner from a neighboring country wrote to ask me what I thought of dehydration, and what plant or system of dehydration could I recommend. I replied that the subject was too important to deal with satisfactorily by correspondence, but that if he would call at my testing kitchen in New York he could see my exhibit of dehydrated products, — fish, oysters, meats and almost every fruit and vegetable grown in the United States, and that we could then discuss the technical details of dehydration to good advantage.

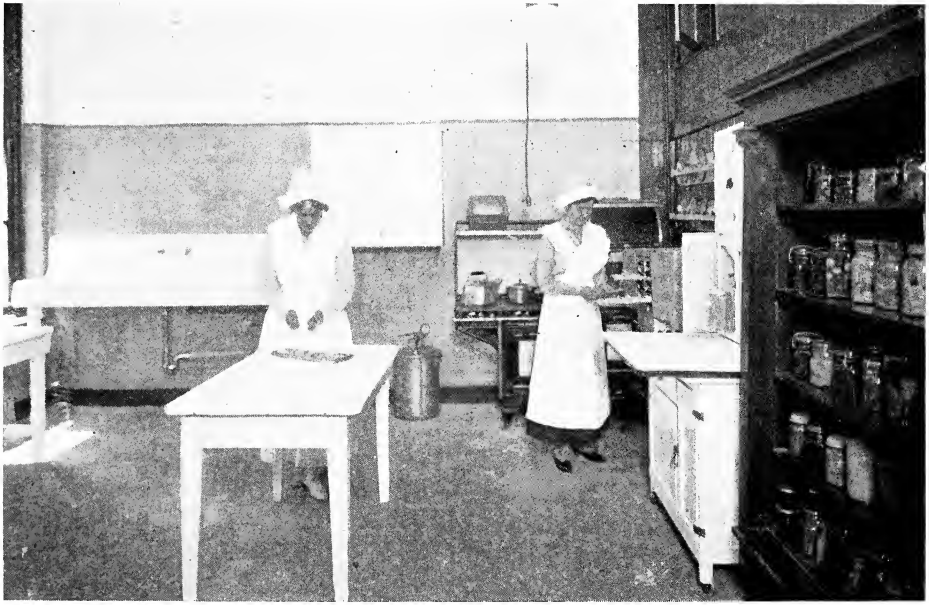
This man came and brought another food official with him, whereupon I prepared a luncheon at which

were served fresh-picked carrots, spinach, turnips and cabbage, the latter chopped finely and served raw with a dressing, as cabbage salad. At the meal I served the same things dehydrated, the carrots and spinach having been dehydrated a couple of years previously. My guests confessed that they could not tell which were the fresh vegetables and which were the dehydrated ones. Finally, one of them said, "Oh, Mrs. Andrea can make anything taste good," but while I appreciated the compliment, I protested very promptly, saying that he was not being fair to dehydrated products, because all can cook and serve dehydrated products that will be just as delicious as fresh-picked stuff, provided that they will follow simple rules and directions. And, as it happened, in this particular instance my maid had prepared everything under my directions, so the whole thing was really a sincere tribute to dehydration.

As *drying* is a more convenient term to use, we will consider it for our purpose herein as dehydration, desiccation or dehumidifying; consequently, when the word "drying" is used it is to be understood in its restricted sense.

I have tested samples of dehydrated fruits and vegetables from Denmark, Germany, Russia and other European countries, but find that over there they precook everything before dehydrating it. This means a great loss in flavor and appearance, and when the precooking has involved a boiling process a large percentage of the valuable nutrients and solubles escape

Diploma awarded with gold medal to A. Louise Andrea at Panama-Pacific International Exposition, San Francisco



Mrs. Andrea's testing kitchen, New York City

into the water, with consequent and material loss of desirable properties.

We have improved vastly over the European methods, for we dehydrate most of our produce raw, with few exceptions, such as potato, beets and corn, the latter being steamed only long enough to set the milk.

Just a word of caution will be *à propos* here. There is dehydration and what many people mistake for dehydration, the latter being improperly and imperfectly done. The produce must be dried "below the enzyme stage" and *throughout;* uniformly from centre to surface. That is to say, there must not be enough moisture left to permit of fermentation or mold, but at the same time there must be a sufficient percentage of moisture left in the products so that they will "restore" as they should.

Already, many people have met with disastrous losses through trying to put dehydrated products on the market in packages, without realizing the importance of the foregoing. The products molded and spoiled, and in many cases developed grub worms and insects, all of which meant loss and disappointment to the packers, and distrust of dehydrated products on the part of the public.

This need not be a source of discouragement, however, for proper dehydration and treatment of the products overcome these troubles, and we must remember that when canned foods were first put on the market, constant spoilage and loss occurred until the packers learned the means and methods now employed by them.

Of course, reasonable care must be exercised in regard to keeping foods that have been dehydrated, for nothing in Nature will stand abuse or mistreatment. As an instance of this I was once called into consultation with some people who were putting out dehydrated milk (milk powders) on a large scale. They were having constant trouble with their customers, with bakers especially, who claimed that while they realized what milk powders could do when used in their bread, cake and other mixtures, the powders became rancid and unusable, so that they would not experiment with them any farther. Upon visiting these dissatisfied bakers I found that after having purchased the powdered milk in barrel lots they were keeping these barrels open, and close to radiators, ovens and other sources of heat, so no wonder rancidity and spoilage ensued.

When this little matter of cause and effect was pointed out, and their future supplies were kept in dry, cool and suitable places, no further complaints were received, and the business has grown to enormous proportions.

In concluding this chapter I would say that while those who have worked with dehydration, and have used properly dehydrated products, become enthusiastic converts to this form of food preservation, as the subject is so new and as yet comparatively little known, I will now quote statements regarding dehydration from various authorities in support of my own views and claims.

REGARDING DEHYDRATION

General Realization coming

As a people we have not yet realized that for many decades we have been paying millions of dollars annually for water that we did not want, — water that we might just as easily have had well-nigh for nothing, by working the pump or turning on the faucet.

Take, for instance, a case of canned tomatoes costing about $4 and containing two dozen tins, each weighing 2 pounds. The canner's outlay for the tomatoes themselves did not exceed 15 cents. In other words, the ultimate consumer is spending $3.85 for 15 cents worth of tomatoes, and probably full 90 per cent of each 2-pound can is tin and water — mostly water.

The economic wastage becomes still more conspicuous when you realize that a tax in the way of freight charges is being levied for the transportation of every pound of that water, and of the cans and boxes that make it possible to ship the tomatoes in that form. The canned tomato is no whit more palatable or nourishing than its dried rival. The 24-can case tips the scales at 60 pounds, while the same quantity of the vegetable when dried weighs only $2\frac{1}{4}$ pounds, and can be packed in pasteboard containers.

Probably the sacrifices due to the water content of the canned product can be made even plainer. It is practicable to ship dried in 1 car what it would take 30 cars to carry of the canned goods. In a carload of canned tomatoes there are 10,000 pounds of tin and 14,000 pounds of lumber, a total of 24,000 pounds, and for 30 cars freight would have to be paid on 360 tons of materials that could in no wise help the hungry consumer. An expert has further elaborated upon the wastage and lost motion involved. He says: "There is the movement of the tin-making material from the mines to the tin-plate

factory, and the movement of the tin plate from the tin-plate factory to the tin-can plant; and the movement of the logs to the sawmill and of the lumber thence to the box shook works, and the shooks from there to the cannery. The aggregate of this service gives us 105 carloads as against 1 carload of dried vegetables." The cardboard containers are made from waste material, and the cartons, folded flat, capable of holding a carload of desiccated vegetables, can be carried in a very small space.

Last year we raised 400,106,000 bushels of potatoes, and from government sources we learn that only about 32 per cent of our total potato crop ever moves out of the territory in which the tubers are grown. A staggering percentage of the potatoes are scrapped or fed to cattle simply because they are not first class, measured by market standards, or it is impossible to ship them away to other districts for human consumption.

The potato is 78 per cent water in its edible portion. In Germany they dried in the course of twelve months, according to the latest available reports, 800,000,000 bushels, substantially twice as many potatoes as we raise in the whole United States annually. Every pound of those desiccated potatoes was 100 per cent foodstuff, and could be kept many months without deterioration. This was apart from the potatoes which were utilized in the ordinary fresh condition.

Again, for fresh vegetables shipped long distances we pay extravagantly. This is to cover spoiling in transit or preservation while on the road, besides taking care of the transportation charges. A western grower urged Congress about a year ago to take steps to promote dehydration in this country. According to him: "Just before I left California I saw a shipment of 50 pounds of green sprouts about to be despatched to some point east where the express rate is

12 cents a pound. In order to ship that 50 pounds of green sprouts they had to include a 100-pound cake of ice, and to pay on that ice at the same rate, making a total express outlay of $18. The whole 50 pounds could have been dried and mailed by parcel post, the package weighing 3 pounds and calling for 35 cents in stamps." — THE SUN, NEW YORK.

The United States Department of Agriculture informs us that fully 50 per cent of all the vegetables and fruits grown in America never reach the consumer. They rot on the ground.

This tremendous loss is due to difficulties of transportation combined with the fact that only the fanciest quality of fruits and vegetables will pass final market inspection for profitable shipping and trading.

The American dehydrating processes now encouraged would conserve every particle of these waste products, contributing tremendously thereby to the wealth of the farm, and adding thousands of tons of perfect foods to the nation's dietary.

The value of vegetables and fruits because of their flavor, fiber and indispensable alkaline salts is recognized by scientists all over the world. Their use is essential to the physical welfare of soldiers, sailors and civilians.

In the dehydrated products the food elements, the albumens, starches, sugars, fats, oil and salts suffer no impairment of their food value. The food cells and cell membranes are not injured, but retain their normal function.

The dehydrated product after immersion in water resumes its original freshness and appearance, retains its original coloring principles, its essential oils and other volatile constituents.

The drying process so imprisons the delicate bouquet and the fine flavor of the raspberry that the manufacturers of

pure fruit extracts actually prefer the dehydrated berry to the fresh berry. The reason for this is very simple. The extract manufacturer has to wait from two to five days after the berry is picked before he can put his hands upon it. On the other hand, when picked fresh and put into the dehydrating machine right on the farm or in a near-by plant the full flavor and bouquet of the berry is sealed up at once and remains sealed up until it is again released by its bath in cold water before cooking.

What is true with regard to the raspberry is also true with regard to apples, apricots, figs, peaches, pears, plums, cherries, quinces, strawberries, blackberries, huckleberries, currants, grapes, rhubarb, tomatoes, eggplant, squash, pumpkin, corn, peas, mushrooms, string beans, horseradish, herbs, etc. — The Globe, New York.

Dehydration is the science of removing water from vegetables and fruits. There are two methods, — the German, which cooks the vegetable with live steam before drying, to break down the starch cells, and the American, which dries by passing hot air over the product. There is no loss of taste, color or food value with the American process. Virtually all fruits and vegetables can be dehydrated and they will keep indefinitely. — General Facts about Dehydration, published by the Food for France Fund, New York City.

In order that the layman may realize something of what dehydration involves, it might be well to show how large a part water plays in some staple fruits and vegetables. Let us tabulate these for easier reference.

	Water Content (Per Cent)		Water Content (Per Cent)
Asparagus, . . .	94.0	Lettuce, ...	94.7
Apple, ...	85.0	Onion, ...	87.9
Banana, ...	74.0	Potato, ...	78.6
Beet, ...	87.0	Spinach, ...	92.3
Cucumber, . . .	96.0	Strawberry, . . .	86.0
Cabbage, ...	91.6	Tomato, ...	94.3
Carrot, ...	86.5	Turnip, ...	65.0
Grape, ...	77.0		

The housewife pays for all of this water at exactly the same rate per pound as she does for the food content. Furthermore, the nutritive value of dried fruits and vegetables increases directly as the percentage of water diminishes. Plainly we are dietary spendthrifts when we insist upon fresh produce, and it is evident that we can effect a very handsome saving if we will content ourselves in the cold seasons with dehydrated products.

By the latest American process the products to be dried are commonly treated within a very few hours after they have been gathered; in fact, they reach the so-called dry-ventors far fresher than most of us know such commodities. We have to wait at times days before they come to the table, and nearly every hour after picking there is measurable deterioration and loss of flavor.

The ultimate products when soaked in water, as they should be for a short time before cooking, regain their original form, and taste as crisp and fresh and full-flavored as though

newly gathered. Of course, the dried foodstuffs occupy but a small part of the space taken up by the original fresh produce.

For example, a barrel of dried mixed vegetables that will make first-class soup weighs but 100 pounds and will provide a steaming plate for 7,000 persons. Before drying, these vegetables fill something like 30 barrels. This saving in weight and bulk is a matter of especial importance now because of car shortage and railway congestion. — THE HERALD, NEW YORK.

And the weight of expert opinion is emphatically that we are about to decide in favor of a revolution; that we are about to institute a change in our mechanism of food supply more fundamental in its nature, and more far-reaching in its results, than anything since the invention of the tin can itself. We are going to discard the whole elaborate system of preserving our food in condition to eat; instead of wetting it down and cooking it before preservation, we are going to dry it out thoroughly, and, in all but a few cases, preserve it raw. Dehydration is the word. — AMERICAN COOKERY, BOSTON, MASS.

And last, but not least, there are various types of dryers for home use, so that the housekeeper can see and learn how to dry or dehydrate her fruits and vegetables so that they can be "restored" by simply soaking in water at any time during the winter. The original orchard and garden fresh flavors and colors will be in them to perfection, for proper drying means that merely the water content has been removed without rupturing the cell walls or changing the flavors, colors and nutritive properties. It is a pleasant consideration that no winter day can prove so cold and dreary but that you can have the cheer and good things of summer time

on the home table by means of dehydrated products. — THE TRIBUNE, NEW YORK.

The one great lesson taught by the special instruction train to promote food preservation, which was visited by hundreds of persons last evening at the Erie station, is that of dehydrating foods. Everything from peas to prunes, including tomatoes, asparagus, spinach, carrots, beans, pineapple, squash, can be dehydrated to advantage, eliminating the need for tin cans, glass jars and sugar, and absolutely doing away with the waste resulting from "spoiled" jars.

Absolutely every bit of the dried fruits and vegetables in the train had been "put up" by Mrs. A. Louise Andrea. Mrs. Andrea received first prize for everything she canned and preserved at the San Francisco fair. Mrs. Andrea spoke informally to the groups of interested women who gathered around her, answered questions, and explained many of her little discoveries which make her work so successful. — THE NEWS, NEWBURGH, N. Y.

Drying of garden products, however, is going to make the amount of food stored away for next winter's use much larger than it would be otherwise. This old-new idea of food drying has taken forcible hold of the American people. Revived at this time of imperative need, it has appealed to every one through its practicability. Food so prepared is wholesome, palatable and extremely cheap. From being the preoccupation of scientists, the subject of food drying has come to be, next to the war itself, the biggest topic of the day.

Mr. Lou D. Sweet, president of the Potato Association of America, says on this subject: "Dehydration has come to stay in this country, and those who are familiar with the problem of food production and conservation are firm in the

opinion that we are seeing only the beginning of what is sure to expand into an enormous and important industry. Every encouragement, therefore, should be given to home drying, in order that the people may become familar with the excellence of the products which may be prepared by this method, and to save the vast quantities of excellent food which goes to waste for lack of adequate means of conservation." — CHARLES LATHROP PACK, PRESIDENT, NATIONAL WAR GARDEN COMMISSION.

A single pound of dried tomatoes or cabbage is equal to 10 pounds of the fresh vegetable, and at least that number of pounds of the canned. A paper carton of dried tomatoes, no larger than a package of breakfast food, and weighing $2\frac{1}{4}$ pounds, is equivalent, in food values, to an entire case of canned tomatoes, containing two dozen cans, weighing 60 pounds. When cooked, each will make the same volume of food.

The use of dried vegetables in cafés, hotels and clubs carries with it many advantages. It enables the *chef* to have on hand, at all times and to meet any emergency demand, a supply of all varieties of vegetables. The compactness and lightness of these dried vegetables avoids the necessity of maintaining large storage rooms, often refrigerated, for a tin of dried vegetables weighing 10 pounds, and occupying less than 2 cubic feet of space, will provide enough food for a thousand persons at one meal. As the food is nonperishable, it can be carried on the pantry shelves indefinitely without deterioration, and when wanted for use the soaking of a few handfuls in water will render the vegetable ready for cooking.

Practically every variety of fresh vegetable is now being successfully dried. In the big drying plants on the Pacific

coast all kinds of vegetables, berries and fruits are dehydrated.

The best proof of the utility of evaporated vegetables is shown by the kind of institutions which use them. Famous hotels, clubs and cafés from Maine to California are using them regularly in their service, and many of the leading *chefs* of the country have testified to the merits of the new form of food. In New York the Manhattan and Ritz-Carlton hotels use evaporated vegetables, and the same is true of the Willard in Washington, the Palace and St. Francis in San Francisco, and many others throughout the country. An equally large list of prominent clubs and cafés have become converted to the new product.

The owners of ocean-going vessels are also becoming interested in evaporated vegetables for use in feeding the passengers and crews during a voyage. The great saving in space, their wide variety, and other advantages have led some of the large operating companies on the Pacific coast to try out the products, and all of them report the results as being most satisfactory. — THE STEWARD, NEW YORK.

The advantages of dehydration are almost too obvious to require extended statement. Most evident of all is the loss in weight. All the vegetables in common use contain from 65 to 95 per cent of water. The dehydrated product made from these vegetables should contain from 5 to 10 per cent of water. There is, therefore, a very large reduction in weight and consequent saving in the transportation charges, which in general are based upon weight.

Similarly there is a loss in bulk amounting to from 50 to 80 per cent of the bulk of the raw material. The importance of these factors to railroads in times of congestion such as we have just passed through, or to ships in overseas service,

is very evident. In the mere matter of sending food to armies, one ship could easily carry the vegetable requirements which in the green or fresh state would take from 10 to 25 ships.

From the standpoint of agriculture the greatest advantage of dehydration undoubtedly appears in the stabilization of crops and the conservation of materials. Under the present conditions we are confronted by either a feast or a famine. If we consider potatoes as the most typical root crop, it is a matter of experience that a year in which we get a very large harvest and consequently low prices is likely to be followed by a lean year with a small crop and high prices. This pendulum swing goes on decade after decade. With dehydration the excess of the years of great yield can be stored up and made available in the following year, when prices are higher and the crop much smaller. After a short time this would tend to equalize the amount of planting, and, other things being equal, to give us year by year a sufficient quantity of food materials at normal prices.

The second great advantage is in the conservation of food materials. It is estimated that over 50 per cent of the fruits and vegetables grown in this country now never reach the consumer, as a result of poor transportation facilities, irregularities in marketing or other causes. By making use of the process of dehydration the second quality materials could be preserved by drying, and made available for human food and not allowed to rot and waste. Again, taking the potato as typical, those of classes 2 and 3 (culls) could be used for the manufacture of dehydrated potato and potato flour, a product which has not yet received in this country the attention which it deserves, but which is now being manufactured to some extent in a number of different parts of the country.

A third factor of importance in the relation of dehydration to agriculture lies in the fact that a better diversity of crops can be secured, and as a result of this there will be a good variety of the vegetables which are the equivalent of fresh materials available to poor and rich throughout the year. This means practically better feeding for the people at large, evening up of prices, and the prevention of famine or great food shortage as a result of poor crops in any particular location. — Maj. S. C. Prescott, United States Department of Agriculture.

Dehydration of fruits and vegetables is a field offering great possibilities, once processes have been developed to make good products. Millions of pounds of water are being carried about in this country every day in freight cars at high rates, in the form of fresh fruits and vegetables. The water not only costs consumers millions of dollars in freight and bulk, but is the chief factor in decay and freezing. By good processes of dehydration, which are now being perfected, apples and berries can be made dry as chips, and potatoes and cabbage likewise. A bushel of potatoes in the form of dried flakes can be carried home under your arm in a tin can. No peeling, no freezing, no decay, no waste. Millions of pounds of such potatoes were dehydrated in America and sent to the Allies. In a little tin you will soon buy mixtures of dehydrated vegetables, six or eight different kinds, for soup. — The Saturday Evening Post.

I am deeply interested in the industry of desiccated vegetables and fruits. I believe that the general use of such products by the general public would be highly beneficial. The rapidity with which the samples are dried and the low temperature employed secure the full value of these products

in so far as their vitamine and antiscorbutic properties are concerned. — Dr. Harvey W. Wiley.

In my opinion, gathered from my own experiments and the evidence gathered in Germany, the food values of dried vegetables remain the same as fresh. Regarding the so-called vitamines, the leaf vegetables, such as cabbage, spinach and cauliflower, contain more than do the fruits and other vegetables, but owing to the high prices in wintertime the consumer with a limited pocketbook is going to buy the grain products he considers essential and cut out these green leaf vegetables. This is a great mistake. Children particularly, and even the grown-ups, need this particular substance which occurs in largest amount in these green vegetables which will not be bought by consumers during the high-priced season, hence my great interest in the possibility of converting these leaf vegetables during the season when they are very cheap into an imperishable commodity which everybody can buy when fresh vegetables are too expensive in the winter season. — Professor McCollum of Rockefeller Institute of Hygiene.

CHAPTER II

USES FOR DEHYDRATED PRODUCTS

As intimated previously, almost everything which may be eaten can be dehydrated. As a matter of fact, I have succeeded with everything but watermelon, in which the percentage of moisture is so excessive and the cellular structure so delicate that I must exclude watermelon from the practicabilities, albeit the rind may be dehydrated for future use in pickles and conserves. While it would seem that the tomato comes in the "impossible" category, nevertheless, the tomato can be dehydrated to good advantage, in quarters if the tomatoes are small, or sliced, and then ground into powder, if desired, the latter being the best for soups and sauces. Directions for making these are given elsewhere in this volume.

Whether for commercial purposes or for home use, it must be realized that through dehydration the finest and freshest of farm and garden produce is always available for the bleak winter months, and for use where such produce cannot be grown. One can have young, tender beans, fresh peas, sweet corn, succulent, tender spinach, tropical dainties and a multitude of other food things at any time during the winter, and at any place whatever, all preserved at their freshest and best, and when cheap and plentiful. In fact, in many districts produce develops so

rapidly and in such abundance during the summer that it can be often had for the mere picking, and those having farms and gardens may dehydrate in their kitchens such small amounts of fruits and vegetables as it would not pay to put up by a canning process, but which can be saved to perfection and without cost by simply using a little home dehydrator over a kitchen range.

Those intending to do dehydration on a commercial scale are naturally interested in the possible sources of their raw materials and markets for the finished goods. I do not think that at first it would be advisable to try to sell small package lots to housewives and families, for the time and expense involved would hardly warrant this. Worth-while quantities may be easily sold to hotels, restaurants, clubs, camps, boarding schools, hospitals and other institutions, however, and to the supply departments of railroads, steamships and sailing vessels. The advantages of such products are so many and so obvious that but little salesmanship is necessary, for it is a matter of obtaining fresh produce which is already cleaned and ready for use, which takes up little storage space, and at a positive saving of cost and labor to the purchasers.

The tremendous reduction in space and weight is all-important as far as dining cars and ships are concerned. Many of the latter heretofore have been going without fresh fruits and vegetables on account of lack of room and refrigeration, to the detriment of both passengers and crews. But where a truck load

of good, fresh produce has been reduced to a mere case or barrel, all the previous objections are done away with, and dehydrated fruits and vegetables will be carried and served, thus preventing scurvy and other ailments, and adding materially to the health, efficiency and happiness of all concerned.

To prove my point I am constantly receiving letters asking where good dehydrated products can be secured. The following, from one of the largest corporations in the United States, is an example: —

DEAR MRS. ANDREA: — We are operating a large concession in South America, and are obliged to transport to our workers there commissary supplies. These have to go up a long river in gasoline boats and then on mule back. It has occurred to us that we might use to advantage dehydrated vegetables in this connection, and write you, as we understand that you have done a great deal of work in connection with the dehydration of vegetables, to ask if you can inform us the name and address of manufacturers of best grade of these products. We will greatly appreciate any information you can give us.

Other profitable channels are opening up, such as the furnishing of basic materials for jams, jellies, syrups and extracts, for the fruits employed therein may be dehydrated and set aside to be used when convenient, and the resultant products are in no wise inferior to those made from the fresh fruits.

There is no need of worry as to the outcome of a dehydration business, properly conducted. In the first place, it is dealing with a necessary factor in

life, namely, food. No matter what happens, whether wars, revolution or business depressions, every one must eat. Jewelry, books and even clothing may be unsalable at times, but where food of the finest and best quality can be supplied in convenient form, and at such a saving of labor, spoilage, space, bulk and weight, there will always be purchasers aplenty, and as dehydrated products become more appreciated, as they are bound to be, the number of purchasers will constantly increase.

Nor need the competition of home dehydrators be feared. While there will be plenty of home dehydration done, this will not appreciably affect dehydration done on a large and commercial scale any more than home canning has prevented packers from doing a world-wide business, and in many instances acquiring large fortunes.

In marketing dehydrated products, while little argument will have to be used, as the facts speak for themselves, there will always be a certain amount of demonstration necessary, showing the dehydrated product in both its dried and restored forms. Occasionally a cooked demonstration will be demanded, which can be given very easily, quickly and successfully, if done according to directions and recipes given later on.

People are astonished at seeing for the first time how wonderfully fruits and vegetables "come back." Indeed, it is a modern food miracle, hence this comparison should be in evidence as a selling factor.

As it takes a little time to restore the products, it is neither convenient nor economical to restore samples constantly, for being restored in plain water and having come back to their original state or condition they will naturally spoil in the course of two or three days, just as fresh-cut foods would, and of course in hot weather decomposition would take place more quickly than during the winter months.

To have the comparison in convenient and economical form, however, you can allow the fruits and vegetables to soak in water for the required time, and when they are restored put them into small bottles or jars full of fresh water, to which a few drops of formaldehyde are added. I have tried many preservatives and find formaldehyde to be the most satisfactory for this purpose. Just a few drops are to be added, however, — not more than three drops to a 2-ounce bottle, or five or six drops to a half-pint jar. If more than this is added the products will darken and lose their fresh, attractive appearance. The bottles must be tightly corked, while if jars are used rubber rings must be employed and sealing done just as in canning. Bear in mind, also, that formaldehyde is poison, so these display products are not to be eaten, but are merely to show how dehydrated foods will "come back."

In making a selling demonstration, a very convincing part of the exhibit may be a tin of canned spinach purchasable at any store carrying a good stock of canned goods. Then in a small open can you may have a small amount of spinach dehydrated. In

my exhibit I have an ordinary can of spinach which contains 1 pound and 14 ounces, as printed on the label according to legal requirements. It is a large can, No. 3 size, and adjoining it I have a tiny can of dehydrated spinach which contains just as much of the actual vegetable as the large can does. This shows at a glance the astonishing difference in size, bulk and weight between canned and dehydrated goods. Moreover, the dehydrated spinach, like other foods preserved in this manner, may be kept in a paper bag, a cardboard box, jar or other receptacle. The canned spinach contains a very large percentage of water, which the consumer must pay for, whereas for dehydrated spinach the *chef* or housekeeper simply draws the water from a faucet or well, adding it as desired. Furthermore, when the ordinary can of spinach has been opened its entire contents must be used up quickly or they will spoil, whereas with the dehydrated spinach a woman can use any portion she pleases, according to the needs of the moment, and the rest will keep for some future occasion. I have a stock of dehydrated spinach which has been in a cardboard container for three years, and it still comes back and cooks up perfectly.

Following this subject of spinach still further, there is another advantage of the dehydrated as against the basket of fresh spinach for the hotel man or housewife. When one buys a basket of spinach there come with it roots, dirt and usually many decayed leaves, with weeds thrown in for good measure occasionally. Last,

but not least, there is the arduous and disagreeable task of picking the spinach over, selecting the edible portions and then washing them, and unless washed very thoroughly and in a certain way the spinach will be gritty when it goes on the table. So, in addition to the labor involved, by the time the spinach has been picked and washed a large portion of it has been rejected, whereas the dehydrated product comes picked over, cleaned and in compact form all ready to cook, for spinach does not need any soaking in order to restore it, but the necessary water can be added and the cooking proceeded with immediately.

To further exemplify how dried foods save space, glass and tin here are the results of some tests made in the Tribune Laboratory: —

	Raw	Canned	Dried
Peaches, . . .	2 pounds, 8 ounces.	1 quart or 2 pounds, 4 ounces.	½ pint or 6 ounces.
Peas, ...	1 pound, 4 ounces.	1 pint or 1 pound.	½ pint or 4 ounces.
Carrots, . . .	2 pounds.	1 quart or 1 pound, 14 ounces.	1 pint or 4 ounces.
Tomatoes, . . .	2 pounds, 6 ounces.	2 pints or 2 pounds, 4 ounces.	¼ pint or 2½ ounces.
Corn, ...	1 pound, 6 ounces.	1 pint or 1 pound, 5 ounces.	½ pint or 4 ounces.
Apples (quart), . .	2 pounds, 4 ounces.	1 quart or 1 pound, 12 ounces.	½ pint or 3½ ounces.

Where it is intended to market the products in packages, a good trade name is advisable, for this can be quickly established as a valuable asset. As examples of trade names there are registered and in use already, "Dryfresh," "Adwater" and "Cellsealed."

CHAPTER III

FOR PETS AND DOMESTICATED ANIMALS

Our bird and animal friends and their owners will profit through this new method of preserving grasses, herbs, fruits and vegetables.

As I have already stated, grass can be dehydrated and then restored to excellent condition. This will be welcome news to many people who have pet cats, especially to those living in places where the animals are deprived of outdoor exercise and such pasturage as even cats love and can obtain here and there in winter. To be perfectly healthy a cat needs a little grass at times and an occasional morsel of catnip or some other herb.

I have made many cats and their owners happy through a little present of some dehydrated grass and dehydrated catnip. The grass allowed to soak for a couple of hours looks, and doubtless tastes, like June grass. Certainly the cats appreciate it, and as for the spray of catnip dehydrated and then restored, the little animals' relish of it is very agreeable to behold.

The same thing holds true with herbs. These have a fragrance, flavor and value such as many of the old dried herbs cannot possibly furnish, and while I have not taken up, as yet, the subject of dehydrated herbs

for general medicinal use, I am satisfied that here is a big and profitable field.

Speaking of grass and other green fodder, it is true that silos give many farmers, stock raisers and dairymen an invaluable adjunct. At the same time, there are thousands of men owning horses, cows and other animals who cannot avail themselves of ensilage, and whose animals must sorely miss a taste of green food during the long winter months, and really suffer for want of it.

A stock of dehydrated grass, green corn leaves, pea pods, turnip-tops and the like would not only be of practical value but a real kindness to the animals for whose care, comfort and happy condition the owner is responsible.

It is astonishing what a considerable amount of green fodder can be reduced to an infinitesimal compass and stored in any convenient place, even in a cold building, for dehydrated products will not freeze. A little of this fodder steeped in tepid water for a short time will be a most welcome treat, and will tend toward preventing many ailments animals are subject to that are fed exclusively upon dried food.

This brings up a very important potential proposition of salvage, utilizing to good purpose pea pods, cauliflower leaves and other rejects from canning plants and elsewhere. Of course, when considering the use of such rejects it is necessary to be assured that no disinfectant has been thrown on them, for this is sometimes practiced in the case of heaps of outer

leaves of vegetables and whatnot in order to prevent flies and odors.

In this connection it is well known how much better off hens and chickens are if fed green stuff from time to time, whether egg production has to be considered or the marketing of poultry for table use. Here is a convenient and economical means of adding to the poultry rations, not only grass and other leaves, but an occasional meal of vegetables, the culls and unmarketable produce being useful in this way. When dehydrating, however, only fresh and sound stuff must be used. Badly wilted or decomposed parts will spoil the entire output; but as intimated, vegetables too small to market, or that cannot be shipped profitably in their heavy raw state, may be put to good use in this and other ways.

CHAPTER IV

DEHYDRATING IN LARGE QUANTITIES

We will now consider dehydration in commercial or community plants. Such plants have been and are being established all over the United States and in other countries as well, and various types of dehydrators are being used, — tunnel, kiln and chamber driers, some of the latter being portable and others equipped with traveling belts instead of trays, this with a view to doing away with labor in handling and thereby reducing cost.

As regards the commercial proposition, markets and sales require particularly careful consideration.

A community plant may be conducted on a co-operative basis, with the idea of supplying local families with fruits and vegetables for home use, the idea being always to take advantage of summer low prices and abundance as against scarcity and high prices during winter.

People bring their produce to the community plant where it is treated, either for a cash consideration or for a percentage of the produce itself. That is to say, a certain portion of everything bought is retained in the community plant to pay its operating expenses, and the balance returned to the farmer or producer who brings it in to be dehydrated. The patrons are encouraged, and in some instances required, to bring

their fruits and vegetables peeled and cut, or otherwise prepared before bringing them to the dehydrator. The objection to this is, however, the rapid deterioration of materials after the protective skins have been removed and the cut surfaces exposed. For this reason it is better to have peelers and cutters available at the plant. And, once for all, the produce must be sound and as fresh as possible. Dehydration will not save "turned" or decomposed materials.

Where the community plant is conducted in an ordinary business way the products are sold and a division of profits is made, *pro rata*, with the stockholders, as in any other business, the stockholders in this case buying whatever they need from the community plant and paying for it just as every one else would. In addition to this, if local producers are interested in the plant financially, it will tend toward assurance of raw material, both as to quality and regular supply.

The managers of community plants, however, must assure themselves that those interested fully appreciate how much raw materials shrink when dehydrated, otherwise there is apt to be suspicion and dissatisfaction.

People must realize, for example, that a pound of fresh carrots comes down to 2 ounces or less upon being prepared and dehydrated, it being remembered that part of the loss is caused through cleaning and peeling, and, with many things, through necessary rejection of bruised surfaces. The same reasoning

applies to pod and leaf vegetables, so it is not only advisable but necessary to give ocular demonstration and proof at the very outset.

Many systems of dehydration are being exploited just at present, "most of them bad," as one of the foremost experts in the country said to me.

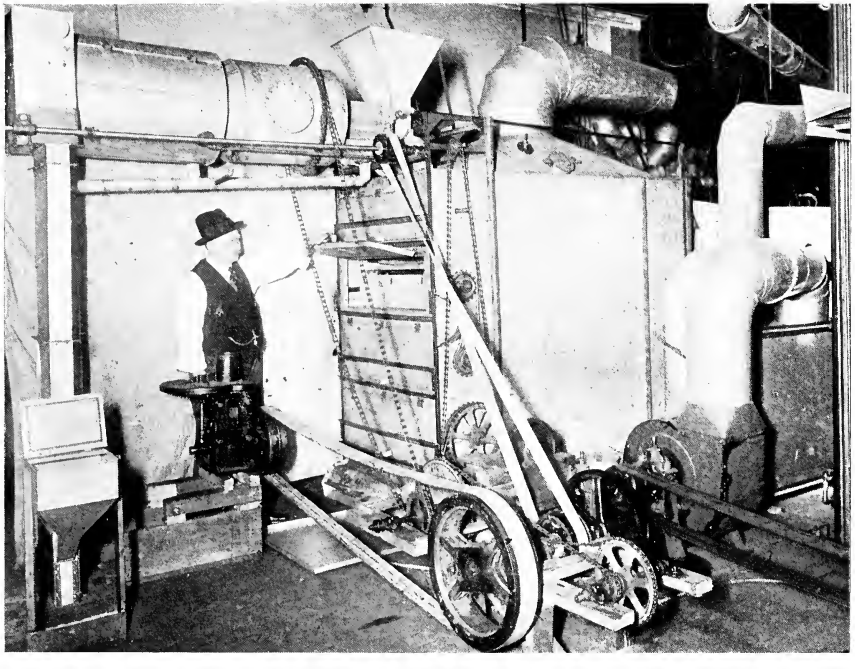
Dehydration seems so simple and so easy at the first glance that many people have gone into the business without due consideration or adequate knowledge. Experience shows them, however, that there is a lot to learn and many factors to take into account. Hence they have obtained consequences instead of results.

There are different qualities of dehydration, — poor, better and best. The first test of a dehydrated product is its keeping quality, and then, all-important to the consumer, how it restores and tastes when served. Poorly dehydrated products will not keep long; furthermore, they take too much time to restore (even when they will restore at all), and are then insipid and inferior in flavor. In fact, I have countless specimens of so-called dehydrated stuff which has been both brought and sent to me to find out why it would not come back, or why it quickly molded. If overdried or dried too slowly the cell walls have been ruptured, chemical changes have taken place, and in many instances an actual cooking has resulted, usually because too high a temperature has been employed or too much time has been consumed in the process. As for the molding, this is generally caused by the inner cells retaining too much moisture, and here is one of

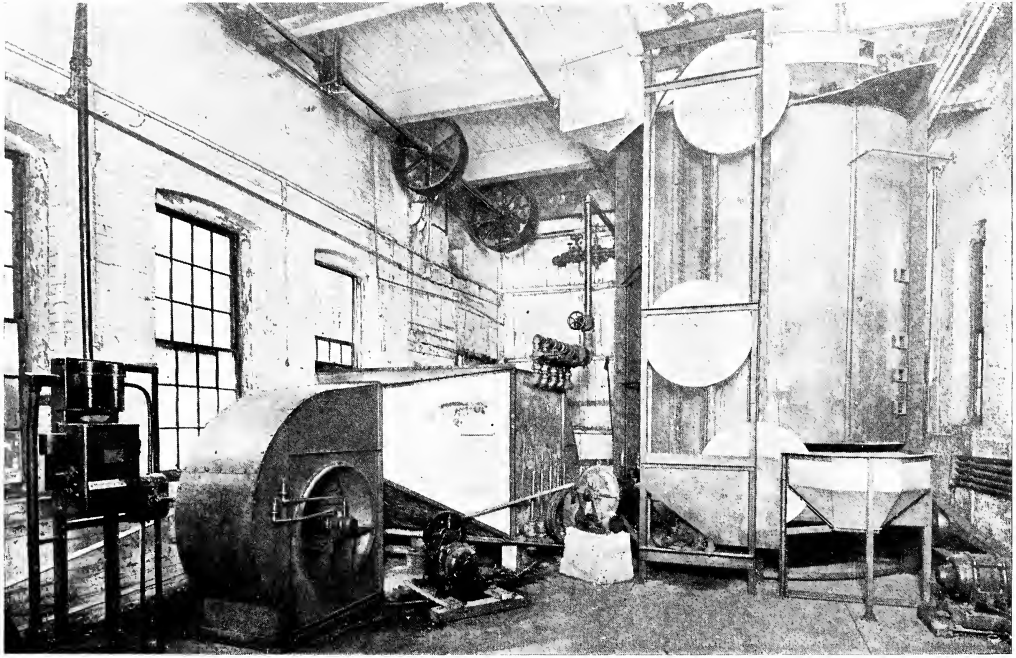
the points regarding which many dehydrators go wrong, as I will explain presently.

I obtain the best results by starting the dehydration at a relatively low temperature, and I insure a perfect product by having a certain amount of moisture in the dehydrator at first. Relatively good products may be obtained without the employment of such moisture, or through a one-temperature drying, but some initial moisture and raising of temperature will be necessary to obtain perfect results, and here is the reason. If raw materials are subjected immediately to a high, dry temperature there is a very rapid evaporation from the surface or superficial cells, which "skin dries" the material, forming practically a glaze or coating which prevents the inner cells from liberating their moisture as they should do. Consequently when the product is apparently dehydrated, the inner cells still contain too much moisture, and are still subject to enzymic action, besides which this moisture exuding later on will furnish a dampness sufficient to allow of the superficial molding which has given so many people such trouble and loss. At one time hot dry air was considered so necessary that attempts were made to eliminate moisture from the air by passing it through or over some hygroscopic substance such as calcium chloride or sulphuric acid, or by heat-drying the air before it was admitted to the drying chamber, but such methods proved fallacious besides adding to the operating costs.

Dehydration is such a new subject that it is difficult



A Conveyor Dryer in which loading and drying are done automatically, thus saving labor costs



The Harrison Dryer

to find a standard or basis of agreement upon all points among those who are experimenting with it. But with all due deference to contrary opinions, and after having carefully tested many systems and worked with the subject for some years, I am able to secure the best results by observing the following rules: to use radiate heat rather than direct heat; to start with the lowest temperature necessary and finish with the highest temperature suitable. And, by the way, times and temperatures vary for different products. But whatever the necessary time or temperature, I can only get results satisfactory to myself by starting at the minimum temperature and finishing at the maximum temperature for each particular product, having moisture in the dehydrator for a certain length of time, which insures all the cells (both inner and outer) being uniformly dehydrated, finishing up with the highest heat called for, and *dry* heat at this latter period.

My conclusions have been formed, as I say, through years of tests and at times great discouragements, to say nothing of mistakes and the following of theories which seemed plausible, but which experience and better knowledge of the subject made me discard. I still have people calling upon me who maintain that immediate, dry, direct heat and just the one temperature are all-sufficient. The samples of their products force me to disagree with them, and in several instances I have noticed that the previous ideas of using dry, direct heat and a one-temperature process have

been abandoned and other dehydration methods have been sought after, for it was ascertained, in the proverbially dear school of experience, that rapid "skin drying" means molding later on and imperfect restoration.

Further considerations, and essential considerations regarding commercial dehydrators handling ton lots of produce, are the costs. There are time, fuel, labor and other "overheads" to be charged up against the products, and I have seen plants where the cost of production per finished pound was more than the food could be sold for, even though the products were of pretty fair quality. Hence, an apparatus which might be used profitably in connection with dyes or chemicals would not handle food materials economically. Therefore, as there is dehydration and dehydration, so there are plants and plants, and it is very important when considering a plant to go into the matter of costs carefully, to say nothing of quality of output, and finally to plan and arrange the various steps so that there will be no waste action.

Speaking of heat, radiate heat does give better results than direct heat from a furnace. The drying is more uniform and evaporation is more gentle and regular, all of which has an important bearing upon the finished goods.

Heat, circulation and elimination of moisture are such essential factors in dehydration that these three coactive points should be carefully considered before purchasing any plant or adopting any system. And

with a dehydration plant for which a large sum is spent and which does not embody these three factors in proper relation to each other, and which is so expensive to operate that the resultant products cost too much, loss and disappointment are the certain consequences, in which event it is not fair to blame dehydration and its principles.

Some people rely upon huge blowers. These have the fault of sweeping air so rapidly over the cut surfaces of the materials that "skin drying" or surface coating is often caused thereby; besides which the use of too much power or waste heat means an unnecessary fuel expenditure. The best products that I have found are obtained by a suction or drawing of the air, giving a slight vacuum effect, or by a process in which the fanning or blowing seems almost insignificant at first sight, but, which nevertheless, circulates the air in the dehydrator quite sufficiently, and the radiate heat, together with the correct amount of moisture elimination, afford results which are eminently satisfactory.

The Vacuum Process

While vacuum dehydrators are excellent for many substances, no doubt, I have yet to be convinced that they are practicable, commercially speaking, as far as vegetables are concerned.

From what I have seen, the equipment is elaborate and quite expensive. This system requires a chamber containing steam-heated shelves, together with

a vacuum pump and the necessary heating appa ratus.

As it is impossible to set an exact time for the dehydration of any one material, it is necessary, with this system, to "turn off the vacuum" and open the chamber in order to inspect the material, and then to reseal and re-establish the vacuum in case the product is not ready for removal. Moreover, all this may have to be done more than once, and in case too high a vacuum is used the materials are apt to be shattered severely. In fact, I have seen foods treated by this process which were puffed up and blistered in many places, and in other materials the cellular structure was obviously broken down, although this may have been the fault of the operator and not of the system.

It is claimed for the vacuum process that fish and meats dehydrated thereby do not undergo protein coagulation, but for that matter I have seen fish and meats of various kinds dehydrated perfectly by other processes, and the delicate flavors and aromas of fruits and vegetables retained just as well.

Despite the foregoing, however, I do believe that a good, commercial vacuum dryer will be procurable. In fact, I am to test one that is nearly finished and very promising.

Regarding Appearance of Products

While it is most important to furnish or produce dehydrated foods that will restore and cook perfectly

as to flavors, colors and other qualities, we must not overlook the necessity of attractive appearance when dehydration has been accomplished, as this means salability and demand. I am very sure that people would hesitate before buying, and even refuse to buy, dehydrated foods that were badly discolored and disagreeable looking. As a matter of fact, I have seen dehydrated stuff which restored and cooked very well indeed, but which was so dingy and dark and unattractive in the packages that most people would not take it as a gift, even though the producer knew that it would look well and taste good after restoration or rehydration.

Really precooked stuff does not look attractive, but, on the other hand, many raw materials treated with a little steaming before dehydration do look attractive and promising, and, when shown in connection with some of the same things restored, it is an easy matter to convince prospective purchasers.

The drying should stop when the product is leathery and when no moisture can be squeezed out from the ends of pieces after breaking. The "brittle" stage may be reached during the conditioning later; but the products must not be dried "brittle" in the dryer.

In order to set color and texture, steam blanching is advisable. In other words, most raw materials should be subjected to a brief period of steaming. This is called "blanching," a canner's term, and although I do not like the word blanching, as it is commonly used, I am following the precedent.

Blanching may be done in boiling water, but then the materials lose some of their nutrients, whereas by blanching in steam nothing is lost and the color is intensified. Take the case of Brussels sprouts, for example. Cut the sprouts in half lengthwise and then dehydrate some without blanching and others after being steam-blanched. You will find that the blanched sprouts look much better upon the completion of dehydration; also they restore more quickly, and even look better when cooked.

The blanching should be quickly done. The truck containing the trays can be run into a steam chamber, left in for a brief period, and then be *immediately* placed in the dehydrator, which should be ready heated to the starting temperature. As soon as fruits and vegetables are peeled and cut they become subject to chemical changes, decomposition and the action of bacteria, yeasts and molds, so prompt action is necessary to arrest and avert undesirable change and destructive action.

If no steaming apparatus is available and blanching must be done in boiling water, the material should be placed in a wire basket and active boiling be assured for the time necessary for each material.

While approximate times and tables are given later on in this book, it must be understood that the times can only be approximate, for the produce varies according to the season, soil in which grown, and its staleness or freshness, and, of course, the way in which it is cut, — slices, cubes, strips and their relative

thickness. Hence judgment must be exercised, but a little experience will soon enable one to determine the exact length of time for blanching, and, as explained later on, for the dehydration process itself.

Another question comes up, and that is the matter of cold-dipping. This means quickly dipping the blanched materials into cold water. Immediately after blanching, the materials are plunged into cold water, then quickly taken out, drained for a few moments and placed in the dehydrator. It is said to set the color, the shock destroys certain bacteria, and that some products restore quicker after undergoing the cold-dip. So, while the cold-dip may be used, if desired, I have discarded it as of no particular advantage.

After the products are removed from the dehydrator there is a process very essential, which has been called "conditioning" or "curing."

This means that the product is to be exposed in trays or bins for a time, and it should be covered carefully with cheesecloth, for the greatest care must be exercised to prevent insects getting at the material that is "conditioning;" otherwise infestation is probable, with disastrous consequences. There are moths which particularly favor dehydrated fruits and vegetables, and consider them ideal media in which to lay their eggs. These eggs would hatch later, and the grub worms, or larvæ, would rapidly cause havoc in the product. Hence it is most important that the strictest precautions be observed. I have found that 72 hours is sufficient time for conditioning, and in this time the

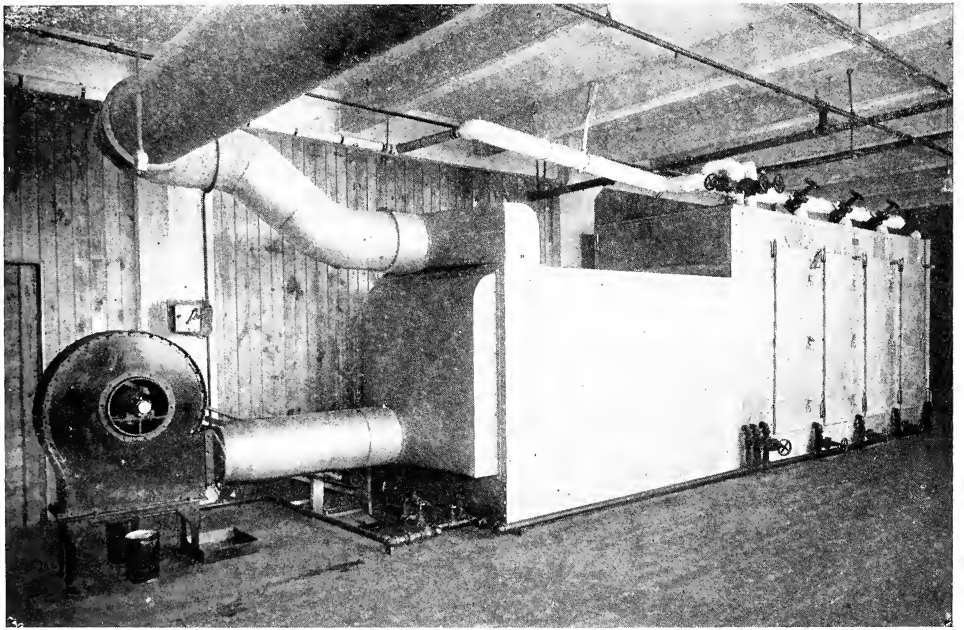
products dry out still further, so that is another reason why they should not stay in the dehydrator until brittle, but rather come out leathery, although sufficiently dry.

The dehydrator and conditioning rooms must be kept immaculately clean; windows and doors should be screened, and I would advocate a thorough sterilization of the entire plant at brief intervals. Moreover, while "conditioning," the products should be kept in a relatively cool, dark place and eternal vigilance be exercised to exclude the troublesome moth pests. Moreover, darkness prevents the products bleaching out, and for this reason it is advisable to have screens or shutters whereby the light can be excluded when desired.

During "conditioning" the product should be turned over twice a day so as to let the air get at it uniformly, and while this "conditioning" may seem like a trivial matter, again I say that it is most necessary.

Auxiliaries such as peelers and cutters may be employed to good advantage, depending largely upon quantity handled and labor costs, and, as with everything else, there are poor, good and best machines for this purpose.

Mrs. Oliver Harriman dehydrating vegetables from her country estate



A type of tray dryer

CHAPTER V

PACKING AND PRESERVATION

The matter of sulphuring is a much-disputed point. Some people advocate it, while others are violently opposed to it. Those who favor it claim that it is not injurious to health, while their opponents assert that it is.

Be that as it may, how long does sulphuring protect fruits and vegetables against insect attack? We have all seen sun-dried apricots, etc., horribly infested, although these products have admittedly been sulphured.

At present, therefore, sulphurization would seem to be a matter of personal predilection.

Generally speaking, apples, apricots, pears and peaches are sulphured before drying in order to prevent discoloration, and in many cases, after sun drying, to destroy the grub worms with which they have become infested during the process.

As I have stated previously, I am not advocating the use of sulphur, and when we read that during the war the government specifications called for non-sulphured potatoes, it is readily seen that sulphuring is not looked upon with favor generally. There are those, however, who wish to employ sulphur, especially with potatoes, so for that reason I will say that one producer whom I know very well says that he uses

250 pounds of sulphur to 100,000 pounds of sliced or cubed potatoes, these being all ready for the dehydrator. Moreover, he employs just a suggestion of sulphur fume in the dehydrator during the entire process, although the main sulphuring is done before the potato goes into the dehydrating chamber, and he states that sulphurization effectually prevents enzymic action, so that while the blanched product will ferment in humid climates the sulphured potato will not.

In using sulphur judgment must be exercised and allowances made for whether the product is new or old, and how thickly the trays are loaded.

In dealing with sulphured potatoes ultimately, it is very important that they should be cooked in steam instead of boiling water, as when cooked in boiling water they become slimy and have a disagreeable effect, which can be removed, however, by putting the pieces in a sieve or colander, after cooking, and letting hot water run through them.

Sulphuring is an easy matter for those who wish to employ the process, but it should be done out of doors, as the fumes are very disagreeable.

For small quantities of material a wooden box large enough to enclose the trays, one over the other, may be used, the lowest tray being a few inches above the ground. Sulphur can be placed in a metal container and ignited, but the product should not be left over the fumes longer than is necessary.

For large quantities a wooden receptacle can be constructed which will hold anywhere from 8 to 15

trays, — in fact, the average truck load of trays, — and the sulphur employed as just stated, some producers fuming for 10 minutes, while others advocate as much as 25 or 30 minutes.

Dipping fruits to prevent discoloration has been tried extensively, chlorate of potash, permanganate of potash, sulphate of magnesia, chloride of lime, peroxide of hydrogen, etc., being used in different strengths, but none of these has proved satisfactory.

Some people engaged in commercial dehydration subject the products just before packing, or in the open packages, to a temperature of 180° to 185° F. for a period of from 3 to 5 minutes, in order to sterilize them. The material is put into cold chambers and the temperature is then quickly raised to the required degree. If in an oven the door should be left slightly open. Seal packages immediately after sterilizing.

Regarding packages there are many forms of commercial cartons used, vegetables like potatoes and beans, which do not stain, being put up in ordinary paper cartons, while berries and the like are put into cartons which are paraffined. There is also a very good package, grease-proof, which is silica lined and waxed on the outer surfaces, and the reports I receive as to it are very favorable. There are also tin cans sealed under a vacuum process after being packed, while other cans have covers which can be pried open and snapped shut again. For moist, tropical climates cans may be necessary and probably are, but, generally speaking, dehydrated products keep better if the

packages allow of some circulation of air, although they must be insect proof.

For home use, paper bags securely tied and preferably paraffined, ordinary cardboard boxes, crocks, wooden pails, etc., may be utilized, but the packages must be kept in a dry place and preferably at a moderate temperature.

CHAPTER VI

DEHYDRATING FOODS IN THE HOME

Followed by General Hints and Data

A good little home dehydrator is a useful and valuable article. It will prevent internment in the kitchen and standing over a hot stove, for you can put your fruits and vegetables into it, use your little dehydrator on your range or stove, and practically no more attention is necessary until the time is up for the product to have finished drying. In this way you can save both small and large amounts of summer food materials, obtained when they are cheap and plentiful, for use next winter in so perfect a degree that they will be as tasty and delicious as when fresh picked.

Furthermore, if you still want to have home-canned fruits and vegetables of your own, and good jams, jellies and preserves, you can make these up in winter, and at any time most convenient to yourself, from the products which you have dehydrated during the summer, for from the products which you have dehydrated during the summer you can do your canning and conserving just as perfectly as if you did it at the time you got the fresh product.

In order to satisfy myself that dehydrated products would do anything that fresh produce would do, I tested them out in every way, including canning, and in consequence I have a complete stock of canned

fruits and vegetables, perfect jellies, jams, marmalades and conserves of every kind, all from dehydrated materials.

Where a coal range is being used constantly, the home dehydrator very soon pays for itself by affording the means of saving small lots of fruits and vegetables which might be lost or thrown away but for dehydration.

It does not pay to put up just a small lot of stuff in glass jars, for there is so much work involved, — the sterilizing of jars, rubbers and tops, then the filling and emptying of the hot-water bath and other incidentals, whereas the fruits or vegetables on hand may be cut as desired, placed on the trays in the dehydrator and the drying down on the top of the range, whereupon no close attention is necessary. When the time is up the produce may be examined, and if dehydration is completed the material may be set in a shallow pan or other cheesecloth-covered receptacle and put in a cool, dark place to condition for three days or so, stirring the stuff a couple of times daily so as to allow uniform curing. A cheesecloth covering is very advisable.

If comparatively large amounts are to be dehydrated at home, a regular day's work can be devoted to this purpose, and as the dryer may be filled and emptied two or three times a day, it will be realized that a large amount of good farm or garden produce may be set aside to be used during the following winter, whereupon it will be found to be as delicious as the fresh-picked, — that is, if it has been properly dehydrated, — a simple matter, after all.

DEHYDRATING HINTS AND DATA

There are as many theories about home dehydration as there are about home dryers. I do not think it is worth while to go into the details of these various theories, so I will tell what means and methods I have personally found to be the best, after several years of doing dehydration in my kitchen.

The very first, and a most important, consideration is the dryer itself. You cannot get satisfactory results from a dryer which is not built on correct principles, and which works against Nature's laws, as many of the little dryers do.

As I said earlier in this volume, drying and dehydration are not the same thing. I think it will be well to give my reasons again for making that statement.

Everything is composed of tiny cells, each cell containing flavoring essentials, coloring matter and nutritive properties, and of course a relatively large amount of fluid. By dehydration you quickly draw the water or fluid through the cell walls or membranes without rupturing the cell walls. Thus you leave everything in the cells except the water, and this can be restored by allowing the products to soak in water for a certain length of time, when they will take back all or nearly all of the water that was originally extracted. Whereas mere drying is a long, slow process, and after a time the cell walls crack and allow the volatiles to escape and chemical changes to take place, so that you lose flavor, coloring and other properties.

To dehydrate, whether it be on a large commercial scale in ton lots, or in small quantities in the home,

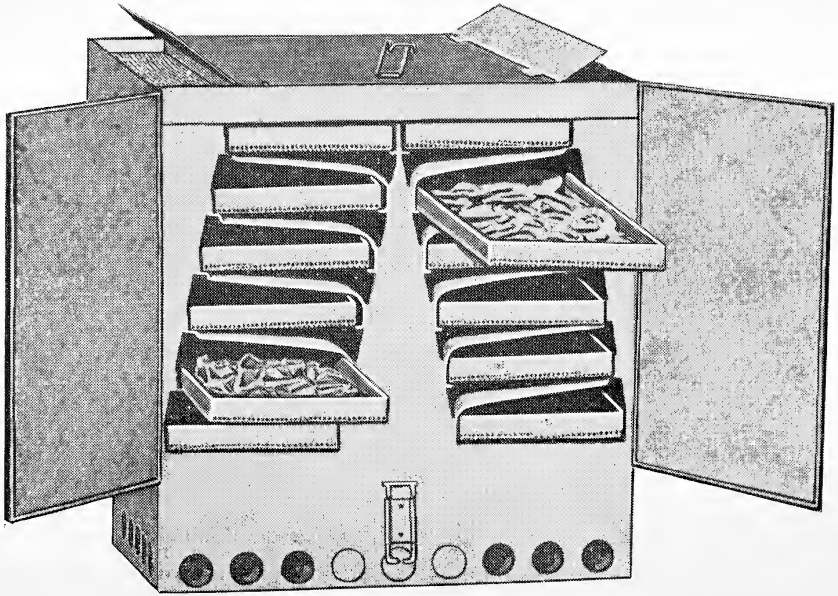
you must have a certain degree or degrees of heat, neither too little nor too much, for if the temperature is too low you do not extract your moisture rapidly enough, and if the temperature is too high you break the cells and even cook the produce, and if it is once cooked it will never restore to a nice fresh flavor, appearance and condition.

So you must have the requisite heat; also a good circulation of air and an efficient means of taking away the moisture that is liberated from the cells, and this must be done quite rapidly and continuously.

Hence while drying can be done in an oven, dehydration is impossible thereby, for the necessary circulation and prompt removal of moisture cannot be obtained. Consequently the stuff bakes or else cooks in its own steam.

I have tested something like twenty home dryers, but I have found that most of them lack the necessary qualifications whereby good products can be assured. As I have stated already, in order to dehydrate properly there must be a certain amount of heat, a circulation of air and a continuous means of removing the moisture that is liberated by evaporation. The majority of the home dryers are painfully lacking in these respects. Many of them do not give uniform dehydration, even on one tray, and taking the trays throughout, you will find that the product on some of the trays is hardly warmed through, while the material on the other trays is overdried or even scorched.

When you have a dryer with trays set above each



The Nichols Patent Home Dryer, — really efficient and recommendable. The one home dryer which embodies the principles and requirements necessary for perfect dehydration; can be used on coal, gas or oil range

other and with an open bottom, which is placed on a coal range or over a gas or oil burner, the materials on the lowest trays become warmed first, and as the moisture is liberated it rises and upon coming into contact with the cooler materials on the upper trays the moisture condenses and precipitates. Thus you are working against yourself. Of course, this can be obviated to a certain extent by changing the trays from time to time, but this requires work and attention which are not always convenient. However, there is a home dryer which does away with the need of this work and fussing. It is a simple and inexpensive little dehydrator which you place over the source of heat, and beyond looking at the thermometer inside once or twice during the process of drying, no more attention is necessary. Furthermore, this little dryer is equipped with a deflector or radiator which distributes the heat and so helps to prevent scorching or cooking when placed over the direct flame of a gas or oil burner.

Speaking of this particular little home dehydrator, one of the greatest food authorities in the United States called at my testing kitchen and saw the dehydrator operating, and also examined the splendid products emanating therefrom. He wrote an article for one of the leading New York newspapers, in which he said that "this little cheap device makes use of a scientific principle which is foolproof in its operation and which turns out the finest foods I have ever seen."

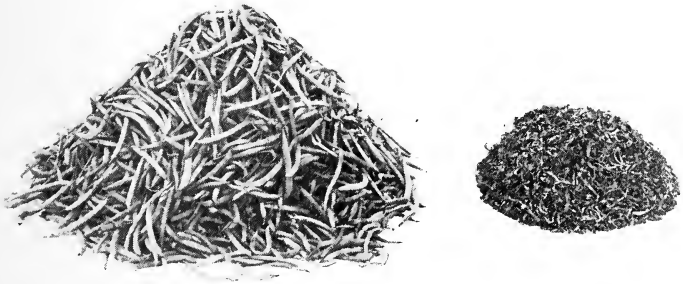
It is always well to have a thermometer, for then you can be assured that you are employing the proper

degree of heat as per the temperatures given with the approximate time-tables in this book. Guessing at the temperature is a mistake, for then you can neither be sure of quality of your product nor the time to leave it in the dehydrator. It is well to be as exact as possible, so obtain a thermometer with a flat back, and after putting the dehydrator on the range or stove with the heat on, place the thermometer on one of the lower trays, and see that it registers the proper degree of heat before you put your produce into the dehydrator.

I found it well to have a little moisture in the bottom of the dehydrator so that the outer surfaces of the cut materials will not become glazed over, as they will if dry heat is immediately applied. That "skin drying" prevents the moisture from the interior of the pieces getting out as it should. Consequently, when the product feels quite dry and you might think it was dehydrated throughout, there is still enough interior moisture to cause a fermentation and eventually form a mold on the surfaces by slowly coming through. I have seen cubed carrots, for example, which were quite brittle and which would snap in two, and many would judge that these carrots were sufficiently dehydrated, but upon peeling off the outer surfaces the cubes would bend instead of snapping, and one could promptly see that the middle of the cubes had not been thoroughly dried.

In the case of produce with which it is advisable to use moisture, I put a shallow pan of boiling water in

Spinach, before and after drying



String beans, 1 bushel, weighing 26 pounds before drying; weight after drying 2.5 pounds

the bottom of this little home dehydrator, which is arranged for this purpose, and I leave the water in for half an hour. This gives a certain amount of humidity which keeps the cut materials from becoming glazed over or seared, and permits of their being warmed throughout, — the pores all being opened, so to speak, — uniform moisture liberation being assured. At the end of the half hour I remove the pan of hot water and allow the dehydration process to take its natural course, finishing with a fairly high and dry heat. (See approximate time and heat tables.)

Now to mention blanching and cold-dipping in connection with home work. I have dealt with this in my previous chapters upon dehydration, so in case you have not read them I would refer you to those chapters, as blanching assures the maintenance of pretty colors, especially the green shades.

For blanching at home a special steamer is not necessary. You may do the steam blanching in the washboiler, as directed later. After taking the tray out of the boiler, shake gently for a few moments to allow it to drain, then insert the tray into the dehydrator, which has previously been brought up to the starting temperature as given in the time-table.

Manipulating the trays in this way saves a lot of handling and possible breakage of the product, and you thus obtain a nicer looking and a better dehydrated product.

In the table, where no blanching time is given, you will understand that it is purposely omitted. Regard-

ing the produce which I have found it advisable to blanch, I mention a special time in each instance.

Only a day or two ago I made another test while dehydrating a quantity of Brussels sprouts. Half of them I blanched and set into the dryer without cold-dipping. The rest I blanched and cold-dipped, but found that the cold-dipped ones took from 20 minutes to a half hour longer to dehydrate than did the ones that were not cold-dipped. The explanation for this is that the second lot, having been cooled off by the dipping, required a certain amount of warmth before dehydration could proceed, and, possibly, "the pores having to be opened." It is analogous to what we experience in a Turkish bath, the pores being opened in the hot room and then closed by a plunge into the cold-water tank. I do not use cold-dipping.

After removing your product from the dehydrator, be sure to allow it to cure or "condition" three days and nights, stirring twice a day or so, so as to allow the air to influence throughout and evenly, and then pack away in cardboard boxes, lard pails or other receptacles, making sure that they are covered tightly enough to keep out insects of all kinds, but not so that they will be absolutely air-tight. I have seen dehydrated products that were kept in glass jars, tightly sealed with rubbers, just as in home canning, but materials kept in that way have a rather musty odor, and do not have as good a flavor as foods kept in packages which are not air-tight.

I wish that I could give exact times for dehydrating

(as absolutely as I am able to do for home canning), but this is impossible, since fruits and vegetables vary so much according to their freshness and whether they are grown in sandy or clay soils, or in wet or dry seasons. Moreover, there is the cutting to consider, as to whether they are cut into very thin slices, strips or cubes, or into relatively thick pieces. While approximate times can be given and are given, the final test is through an examination of the materials. When they are leathery and no moisture appears upon breaking a piece and squeezing the ends, then it is safe to say that dehydration is complete. The material should not be brittle as it comes from the dehydrator, although it may become so after a few hours or days, which is all right then.

Furthermore, every piece or strip will not be dried to exactly the same stage, but during "conditioning" and turning over they average up, some which are a little too dehydrated perhaps absorbing moisture from those which have not been quite sufficiently dehydrated, the latter giving out their little surplus of moisture, so that it may be said to average into proper state. For this and other reasons the "conditioning" is a very important matter and should never be neglected. I say this after having tested products in two ways, — one "conditioned" as aforesaid, and the other being packed into closed receptacles directly after taking the stuff out of the dehydrator. To further assure myself on this point I have even put the dehydrated products directly from the dehydrator

into tin cans, sealing them hermetically forthwith, also into vacuum jars; but after restoring and cooking, my preference is decidedly in favor of the air "conditioned" product.

As many raw materials reduce, approximately, from a pound to an ounce or so through peeling, trimming and dehydrating, it will be readily seen what a saving of space is assured by this process, and if the packages are stored in a dark, dry place, at a moderate temperature, and the contents have been properly dehydrated, there is little danger of spoilage, although it is just as well to use up everything the following winter. Yet I have some stocks of dehydrated fruits and vegetables which have been kept for three years or more, and are still in perfect condition.

A Time-table

All fruits and vegetables should be cut uniformly so that dehydration will be even throughout. They should be as fresh as possible, and all wilted and decayed portions should be removed.

The following time-table is the one used in a dehydrating plant where very good products are turned out in large quantities from a chamber tray system. And here most of the fruits and vegetables are sliced or shredded not to exceed one-eighth inch in thickness. Even these times depend somewhat on the condition of the raw materials, and where heavier slices or shreds are used the drying times must be increased accordingly.

DEHYDRATING HINTS AND DATA

	Steam Blanching (Minutes)	Approximate Drying Time (Hours)	Temperature (Degrees F.)
Vegetables.			
Asparagus, . . .	3	4 to 8	110 to 140
Beets, ...	Until skins can be slipped off by hand	2½ to 3	110 to 150
Brussels sprouts, . .	3	3 to 3½	110 to 145
Cabbage, ...	3	3	110 to 145
Carrots, ...	3	2½ to 3	110 to 150
Cauliflower, . . .	3	3 to 3½	110 to 145
Celery, ...	3	3 to 4	110 to 140
Garden peas, . . .	3	3 to 3½	110 to 145
Green string beans, .	3 to 5	2 to 3	110 to 145
Kohl-rabi, . . .	3	2½ to 3	110 to 150
Leeks, ...	3	2½ to 3	110 to 140
Lima beans, . . .	3 to 5	3 to 3½	110 to 145
Okra, ...	3	2 to 3	110 to 140
Onions, ...	–	2½ to 3	110 to 140
Parsnips, ...	3	2½ to 3	110 to 150
Peppers	–	2 to 3	110 to 140
Pumpkin, . . .	–	3 to 4	110 to 140
Rhubarb, . . .	1½	1 to 1½	110 to 130
Parsley, ...	–	1 to 1½	110 to 130
Spinach, ...	–	1 to 1½	105 to 140
Herbs, ...	–	1 to 1½	110 to 145
Squash, ...	–	3 to 4	110 to 140
Sweet corn, . . .	2 to 5	3 to 4	110 to 145
Swiss chard, . . .	–	3 to 4	110 to 140

	Steam Blanching (Minutes).	Approximate Drying Time (Hours).	Temperature (Degrees F.).
Vegetables— Con.			
Tomatoes, . . .	To loosen skins	1 to 1½	110 to 140
Wax beans, . . .	3 to 5	2 to 3	110 to 145
Potatoes, ...	1 to 3	According to age	125 to 150
Sweet potatoes, . .	–	According to age	140 to 160
Fruits			
Apples, ...	–	4 to 6	110 to 150
Apricots, ...	–	4 to 6	110 to 150
Berries,[1]	–	4 to 5	125 to 145
Cherries, ...	–	2 to 4	110 to 150
Peaches, ...	–	4 to 6	110 to 150
Pears, ...	–	4 to 6	110 to 150
Plums, ...	–	4 to 6	110 to 150
Quinces, ...	–	4 to 6	110 to 150

[1] Except strawberries.

The Proctor people sent me the following data, as the result of experience with their Three Conveyor Dryer, — a traveling belt arrangement.

White Potatoes

Potatoes are washed, pared, washed and cut into three-eighths-inch strips, placed in boiling water for 3 minutes, then in cold water for 5 minutes.

Wet weight per square foot (pounds),	4.60
Dry weight per square foot (pounds),	.92
Moisture per square foot (pounds),	3.60
Moisture percentage removed (wet weight basis),	80
Drying temperature (degrees F.),	180
Drying time (hours),	$4\frac{1}{2}$

Shredded Potatoes

Potatoes are washed, pared, washed, steamed until thoroughly cooked, then shredded.

Wet weight per square foot (pounds),	1.87
Dry weight per square foot (pounds),	.47
Moisture per square foot (pounds),	1.34
Moisture percentage removed (wet weight basis),	74
Drying temperature (degrees F.),	180
Drying time (hour),	$\frac{3}{4}$

Sweet Potatoes

Potatoes are washed, pared, washed and cut into three-sixteenths-inch strips.

Wet weight per square foot (pounds),	3.90
Dry weight per square foot (pounds),	.94
Moisture per square foot (pounds),	2.96
Moisture percentage removed (wet weight basis),	78
Drying temperature (degrees F.),	180
Drying time (hours),	$2\frac{1}{4}$

Spinach

Spinach is washed and the roots and cores removed so that leaves will readily fall apart.

Wet weight per square foot (pounds),	1.81
Dry weight per square foot (pounds),	.11
Moisture per square foot (pounds),	1.70
Moisture percentage removed (wet weight basis),	94
Drying temperature (degrees F.),	180
Drying time (hours),	2.5

String Beans

String beans are strung, washed and sliced lengthwise.

Wet weight per square foot (pounds),	2.50
Dry weight per square foot (pounds),	.24
Moisture per square foot (pounds),	2.26
Moisture percentage removed (wet weight basis),	90.50
Drying temperature (degrees F.),	150
Drying time (hours),	4.4

Onions

Onions are washed, pared and cut into three-sixteenths-inch slices.

Wet weight per square foot (pounds),	4.00
Dry weight per square foot (pounds),	.36
Moisture per square foot (pounds),	3.65
Moisture percentage removed (wet weight basis),	91
Dry temperature (degrees F.),	150
Drying time (hours),	6.5

Red Beets

Red beets are washed, pared and cut into three-sixteenths-inch slices.

Wet weight per square foot (pounds),	3.00
Dry weight per square foot (pounds),	.39
Moisture per square foot (pounds),	2.61
Moisture percentage removed (wet weight basis),	87
Drying temperature (degrees F.),	150
Drying time (hours),	5

Reduction Table

According to the table furnished by Professor Caldwell, hundred-pound lots of fresh fruits and vegetables reduce as follows upon dehydration: —

	Pounds.		Pounds.
Apples (autumn and winter varieties) to	12 to 15	Okra to	10 to 11
Apples (summer varieties) to	10 to 12	Onions to	9 to 11
Apricots to	16 to 18	Parsnips to	20 to 22
Blackberries to	16 to 20	Peaches to	13 to 16
Beans to	11 to 13	Pears to	18 to 22
Beets to	14 to 17	Peas (garden) to	22 to 25
Cabbage to	8 to 9	Potatoes (sweet) to	30 to 35
Carrots to	10 to 12	Potatoes (white) to	23 to 25
Cauliflower to	12 to 14	Prunes to	30 to 33
Celery to	8 to 9	Pumpkin to	6 to 8
Cherries (pie) to	17 to 21	Raspberries to	17 to 23
Cherries (sweet) to	22 to 26	Spinach to	8 to 10
Corn (sweet) to	26 to 33	Squash to	7 to 9
Figs to	18 to 23	Tomatoes to	6½ to 9
Loganberries to	17 to 22	Turnips to	7 to 8

Fish and Meats

Fish and meats should be dried at relatively low temperatures, otherwise coagulation will result.

Fatty portions and connective tissues should be removed.

When fresh these materials will dry quicker than when previously frozen. Moreover, they will restore better.

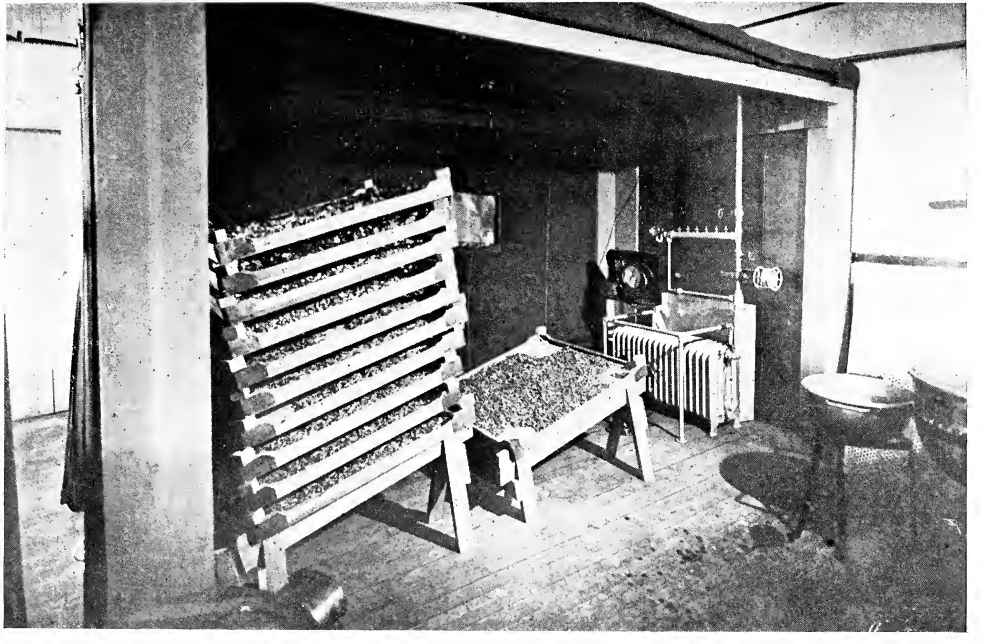
They should be restored in cold water.

Codfish dries well in both the commercial or home dryers, either as steaks or in flakes. Time, about 5 hours, maximum temperature, 130° F. Dip fish in weak brine solution for 15 minutes, dry without rinsing in clear water, and dehydrate.

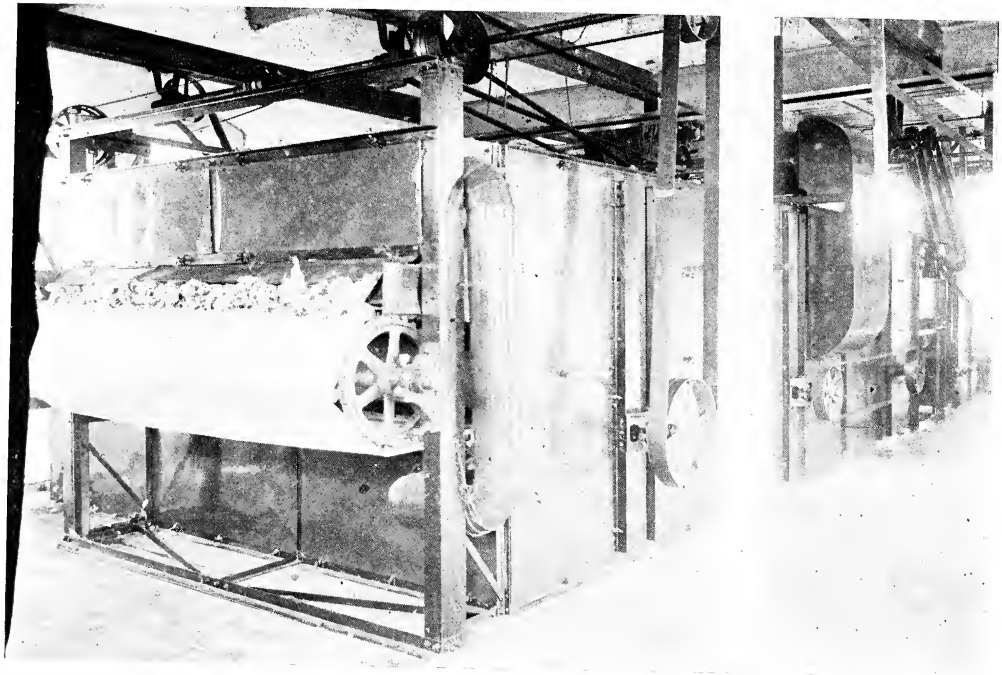
The "lean" fish dehydrate well, but the oily kinds, such as salmon, cannot be dried as easily or as well until one has acquired experience and technique.

Oysters and clams dry out well, temperature not to exceed 130° F. Suitable for chowders or stews. These products may be restored in cold milk.

Good results are obtained by first dipping meat in soya bean or other oil of good food value. After dehydration the meat should be dipped into warm water, 130° F. or thereabouts, in order to rid it of the oil. Then return to dryer long enough to get rid of the surface moisture.



A dryer with canvas walls. A cheap and efficient dryer; curtains can be lifted as desired



A Conveyor Dryer

Notes and Data

The amount of water vapor which can be "lifted" by any given volume of air depends upon the temperature, doubling practically at each 27 degrees rise in temperature, — having four times the lifting capacity at 114° F. than it did at 60° F.

The following table shows substantially the weight of aqueous vapor in 100 cubic feet of air saturated therewith, at various temperatures: —

	Ounces.
At 50° F.,	.936
70° F.,	1.826
90° F.,	3.386
113° F.,	6.488
131° F.,	10.350

The Three Temperature Standards

Fahrenheit.	Centigrade.	Reaumur.	Fahrenheit.	Centigrade.	Reaumur.
100	37.8	30.2	110	43.3	34.7
101	38.3	30.7	111	43.9	35.1
102	38.9	31.1	112	44.4	35.6
103	39.4	31.6	113	45.0	36.0
104	40.0	32.0	114	45.6	36.4
105	40.6	32.4	115	46.1	36.9
106	41.1	32.9	116	46.7	37.3
107	41.7	33.3	117	47.2	37.8
108	42.2	33.8	118	47.8	38.2
109	42.8	34.2	119	48.3	38.7

The Three Temperature Standards — Continued

Fahrenheit.	Centigrade.	Reaumur.	Fahrenheit.	Centigrade.	Reaumur.
120	48.9	39.1	145	62.8	50.2
121	49.4	39.6	146	63.3	50.7
122	50.0	40.0	147	63.9	51.1
123	50.6	40.4	148	64.4	51.6
124	51.1	40.9	149	65.0	52.0
125	51.7	41.3	150	65.6	52.4
126	52.2	41.8	151	66.1	52.9
127	52.8	42.2	152	66.7	53.3
128	53.3	42.7	153	67.2	53.8
129	53.9	43.1	154	67.8	54.2
130	54.4	43.6	155	68.3	54.7
131	55.0	44.0	156	68.9	55.1
132	55.6	44.4	157	69.4	55.6
133	56.1	44.9	158	70.0	56.0
134	56.7	45.3	159	70.6	56.4
135	57.2	45.8	160	71.1	56.9
136	57.8	46.2	161	71.7	57.3
137	58.3	46.7	162	72.2	57.8
138	58.9	47.1	163	72.8	58.2
139	59.4	47.6	164	73.3	58.7
140	60.0	48.0	165	73.9	59.1
141	60.6	48.4	166	74.4	59.6
142	61.1	48.9	167	75.0	60.0
143	61.7	49.3	168	75.6	60.4
144	62.2	49.8	169	76.1	60.9

The Three Temperature Standards — Concluded

Fahrenheit.	Centigrade.	Reaumur.	Fahrenheit.	Centigrade.	Reaumur.
170	76.7	61.3	186	85.6	68.4
171	77.2	61.8	187	86.1	68.9
172	77.8	62.2	188	86.7	69.3
173	78.3	62.7	189	87.2	69.8
174	78.9	63.1	190	87.8	70.2
175	79.4	63.6	191	88.3	70.7
176	80.0	64.0	192	88.9	71.1
177	80.6	64.4	193	89.4	71.6
178	81.1	64.9	194	90.0	72.0
179	81.7	65.3	195	90.6	72.4
180	82.2	65.8	196	91.1	72.9
181	82.8	66.2	197	91.7	73.3
182	83.3	66.7	198	92.2	73.8
183	83.9	67.1	199	92.8	74.2
184	84.4	67.6	200	93.3	74.7
185	85.0	68.0			

Sugar beets may be dehydrated, stored and the sugar extracted therefrom as and when convenient.

A good deal of spoiled product comes through the carelessness or negligence of employees. It is well, therefore, to have thermostatic temperature regulation and other automatic devices wherever possible.

Fruits cut into halves should be dried with the cut side up, or they will lose valuable juices.

If okra, string beans and peas are blanched in boiling water, a half teaspoon of soda to each gallon of water helps to set the color.

To prevent apple, pear, apricot and peach from discoloring, drop the pieces, as cut, into cold water containing lemon juice or salt, — juice of 1 lemon to 3 quarts of water, or 3 level tablespoons of salt to 1 gallon of water. These fruits should not be blanched.

Bell peppers may be peeled quickly by placing them in a pan and heating in the oven until the skins blister, whereupon the skins can be readily pulled off.

Dehydrated mashed potato may be obtained and stocked by boiling potatoes until tender, pressing through a ricer on to the trays and drying until crisp.

Large stalks, as with spinach, should be cut from the leaves, dried separately and mixed in later; otherwise the leaves will become overdried while the stalks are being dehydrated.

Cut cauliflower "flowerets" into halves or slices. Dry separately from the stalks. The stalks make good soup stock, but the leaf parts should be removed.

It is well to spread the trays with cheesecloth when treating bananas and the like. Acid fruits should not come into contact with the metal tray bottoms, neither should tomatoes.

Onion slices should be cut across, otherwise the membranous "onion skin" may prevent uniform drying.

If large berries are to be dried whole, they should be pierced lengthwise. A steel knitting needle will serve the purpose.

Corn on the cob can be dehydrated, but the centre of the cob must be bored out. Corn dried in this way takes too long to dry and to restore to be practicable.

Changes of flavors, or rather addition of flavors, may be produced by blowing in fine powders during drying, — mint, for example; many novel and appetizing effects are thus made possible.

When prunes, peaches and other fruits are dipped into hot lye solution, the dipping basket should thereafter be plunged into cold, fresh water so as to wash off the lye.

Fruits must be well ripened but not soft, and well sorted and picked over. When paring and slicing are done, exposure to air is to be avoided. Rapid, continuous work and fresh, sound produce are necessary for the best results.

As regards soup mixtures, the components must be dried separately and then mixed as desired, taking care to use materials that will all restore and cook up equally or nearly so. Whole peas and beans require longer soaking than the usual soup vegetables; consequently, they should be avoided in the original combination, although they may be added, if desired, after longer and separate soaking, and then cooked in. A popular combination is turnips, carrots, onions, cabbage, celery, potatoes and a little parsley, while some producers add leek, tomato and green pepper. The proportions or percentages vary considerably.

CHAPTER VII

DIRECTIONS FOR HOME DEHYDRATING (VEGETABLES)

To obtain the very best dehydrated products, see that only first quality food is used. Those that are young and tender, in other words, "in prime condition," will, when soaked, restore to a first-class product.

The first step is the cleansing. Thoroughly wash so that no grit, dirt or sand is left. Then scrape or pare to remove skins, with such vegetables as potatoes, carrots, etc., or shell to remove pods from peas, lima beans, etc.

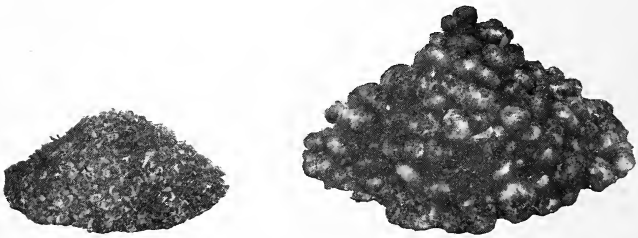
The second step is cutting the product into the desired shape, such as slicing, cubing, dicing or shredding. To facilitate the work the drying tray should stand under the cutting machine, so that the cut product drops directly onto the tray.

The third step is blanching. A wash boiler is excellent for this, and will hold the small trays of most home dryers. Blanching is as important for home dehydrating as it is for home canning, and is done for practically the same reasons, namely, to kill certain bacteria, to improve the color and to soften the texture slightly.

Blanching is best done in steam, as there is less loss of mineral salts than when boiling water is used.

Pears, before drying, 1 quart. Note space saved after drying

White squash, fresh, 17 pounds; after peeling and cleaning, weight 8 pounds. Reduced to 5/8 pound when dehydrated



Onions, before and after drying

To steam-blanch, place four tall, clean tin cans in the boiler, partly fill these with boiling water to hold them steady so that the edges of the tray will rest on them, then add boiling water to the boiler to a depth of 3 inches, and when the water is boiling lower the tray so that it rests on the cans, and cover boiler tightly; or else use hooks to suspend the trays. Water should not be so high that it will touch the product when in active motion.

Have a clock in sight when blanching and remove the product when the time is reached.

The fourth step is to place the tray of blanched material into the dryer, which should have been heated to the required temperature; and let me caution you that there must be no "guesswork" as to this temperature. A small and inexpensive thermometer is necessary. Place this in the dryer, and when the correct temperature is reached and the fire so regulated that the desired temperature is *maintained*, place the material in the dryer. The regulating of the temperature should be started sufficiently early, so that there may be no delay after the blanching is done.

The fifth step in home dehydrating is called "conditioning." After your product has reached its dried stage it is then placed in a rack or pan and set in a cool, dry place for three days. During this period the dried product is poured into another container once or twice each day. This mixes it and allows all parts to dry evenly. If there are no screens on doors and

windows, be sure to place a piece of clean cheesecloth over the product during the "conditioning" period. This prevents any insects from alighting on the food and depositing their eggs. If this should happen, then look out for worms and trouble.

The sixth and last step is storing. Home-dried foods can be stored in clean boxes, heavy paper bags, cartons that can be sealed against insects, paraffined containers, cans, etc. After packing the foods keep them in a cool, dry closet or room.

When is the Product Dry?

The best test I find is to break or cut a piece in two, and press the cut edge between the fingers. If no moisture is noticeable it is sufficiently dry.

Length of Time for Drying

This can be given only approximately, as varieties of the same product differ in their drying time.

Again, the age of the product has a great deal to do as regards the time required; also how thick the slices are cut. The larger the surface that is exposed to the heat, naturally the less time is required for evaporation of the moisture. Likewise some home dryers may take longer than others. In my kitchen we have noticed a difference of nearly an hour when using the same product on different kinds of home dryers, to say nothing of quality of finished product.

I would advise that you keep a careful record of

your drying time and use this as a guide for your next summer's work.

In all home drying the temperature must be raised very gradually. The degree of heat first mentioned should be maintained for about a quarter of the whole drying time. With few exceptions, such as herbs and leaf products, the drying time is usually of several hours' duration. From this you can see that the product is kept for some time at the opening or starting temperature, and then the heat increased 10 degrees for another period, and so on until the finishing heat is reached. A very little experimenting with one product will give you an idea as to how the heat affects it.

Beets

Select beets that are young. Leave all the root and 3 inches of the top on the beet. Wash carefully and place in boiling water, leaving in the water until the skin can be slipped off with the hands. This can be determined by trying a single beet. Dip beets in cold water a minute, drain and remove skins. At same time cut away any blemish. Slice vegetable one-eighth inch in thickness onto the trays, and place each tray in the dryer as soon as prepared.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, about 3 to 4 hours.

Beets are sufficiently dry when there can be no moisture pressed from them. The length of time depends upon the age of the vegetable. A young beet without a woody center will dry quicker than an old one.

"Condition" as directed on page 67.

Beet Greens

Prepare and dry as directed for Spinach. (See page 82.)

Brussels Sprouts

Look over vegetable, remove all decayed or wilted leaves. Wash in cold water, drain, cut in halves lengthwise and place on trays. Blanch in steam as directed on page 67 for 3 minutes, counting time from moment cover is placed on boiler. Remove tray, shake to drain and place in dryer.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, about 3 to 4 hours.

The sprouts are sufficiently dried when no moisture can be pressed from a cut end. The light leaves in center of vegetable may discolor during drying, but will restore to their natural color.

"Condition" as directed on page 67.

Beans

Select stringless variety, remove stems and tips. Wash in cold water, drain and cut lengthwise into even sizes. Place on trays about 1 inch deep, and blanch in steam from 3 to 5 minutes. Remove tray, shake to drain and place in dryer.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, about 3 to 4 hours.

Beans are sufficiently dried when no moisture can be pressed out.

"Condition," as directed on page 67.

Lima beans are shelled, placed on trays and blanched from 3 to 5 minutes, depending upon age of the product. Remove tray, shake to dry and place in dryer.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, about $3\frac{1}{2}$ to $4\frac{1}{2}$ hours.

Drying test is the same as for stringless beans.

"Condition," as directed on page 67.

Wax beans are treated the same as stringless beans.

Cabbage

Remove outside wilted and decayed leaves and cut away the stalks. Slice cabbage, from one-eighth to one-fourth inch thick, directly onto the trays so

the product lies about 1 inch in thickness on the trays. Blanch in steam 3 minutes, shake to remove water and place in dryer.

Starting temperature, 110° F.
Finishing temperature, 135° F.
Approximate time, about 3½ to 4 hours.

Cabbage is sufficiently dry when no moisture can be pressed from stalk portions. Do not increase temperature too rapidly or the leaves will not retain their light color.

"Condition" as directed on page 67.

Carrots

Select young, tender carrots. Wash with brush in water, scrape and wash again. Cut crosswise into one-eighth inch thick slices, or lengthwise into slices. Pile slices one on another and return them to slicing machine for cutting into Julienne strips. Place cut carrots on trays and steam-blanch for 3 minutes, remove trays, shake to drain and place in dryer.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, about 2½ to 4 hours.

If a piece of carrot is broken and no moisture can be pressed out, the product is ready to come from dryer.

"Condition" as directed on page 67.

The Julienne strips will dry somewhat quicker than the slices. Carrots may also be cut into one-fourth

inch cubes. If one vegetable is cut into different shapes, each should be dried on separate trays to give a uniform product.

Cauliflower

Select large, firm, white heads and immerse flower side down for 1 hour in a bowl of cold salted water to draw out any insects. Then rinse and drain. Separate the head into flowerets, cutting off the large stems. Every part should be cut into slices one-eighth inch thick. Place prepared vegetable on trays, about an inch thick, and steam-blanch for 3 minutes. Remove from steam, shake a moment and place in dryer. The flowerets should be cut lengthwise.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, about 4 to 6 hours.

Cauliflower is sufficiently dried when no moisture can be pressed from stem of flowers.

"Condition" as directed on page 67.

Instead of separating the cauliflower into its flowers, it can be cut into slices one-eighth inch thick. It is very interesting to see how the small wisp of dehydrated cauliflower rehydrates into its natural colored and sized floweret. Indeed, while this vegetable may darken considerably during the drying it restores beautifully. All leaves should be removed from the stems before drying.

Celery

Select crisp, tender stalks. The white bleached celery becomes somewhat dark in drying, whereas the green seems to hold its color better. Separate leaves from stalks and dry each separately. Directions for drying celery leaves will be given under Spinach, on page 82. Cut away all discolored parts and cut crosswise into half-inch length pieces. Place on trays an inch deep and steam-blanch for 3 minutes. Remove trays, shake to dry and place in dryer.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about 3 to 4 hours.

Celery is sufficiently dried if no moisture is apparent when pieces are pressed between fingers.

"Condition" as directed on page 67.

Corn

The sweetest dehydrated product will be obtained from corn in the "milk" stage; that is, when a kernel of corn is pressed and the milk flows. Beyond this is the "dough" stage. Husk, place on trays and steam-blanch corn on the cob long enough to set the milk, — about 5 minutes. Drain and cut corn from the cob, cutting kernels about half through for one tray; then, using back of the knife, scrape the cobs (on another tray) to obtain the pulp. Treated in this way there is

little danger of including the chaff from the cob. Place directly into dryer.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time about 3 to 4 hours.

When corn is hard it is ready to come from the dryer.
"Condition" as directed on page 67.

Kohl-rabi

Use only such vegetables as are free from fibrous centers. Wash and peel thinly, cut into slices one-eighth of an inch in thickness, place on tray and steam-blanch for 3 minutes. Remove trays, shake a moment to drain and set tray in dryer.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, about 3 hours.

Kohl-rabi is properly dried when no moisture can be pressed from a cut end.
"Condition" as directed on page 67.

Okra

The very small pods may be dried whole, the larger pods being cut into slices one-fourth of an inch thick. Wash pods, cut or leave whole, place in single layer on

tray and steam-blanch for 3 minutes. Remove tray, shake well to drain and place in the dryer.

Starting temperature, 110° F.
Finishing temperature, 135° F.
Approximate time, when cut, about 3 hours.

Product is sufficiently dried when no moisture can be pressed from the ends. When the pod is dried whole, break and press to determine if dried.

"Condition" as directed on page 67.

Onions

Use vegetable of one color to give best dried product. Peel and cut across the onion into slices one-eighth inch thick. It is not necessary to steam-blanch onions, but place each tray into the dryer as soon as it is ready. Product should not be too thick on the trays to be evenly dried.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about 3 to 4 hours.

Onions are dried enough when no moisture can be pressed from a cut end.

"Condition" as directed on page 67.

During drying this vegetable is apt to discolor, but rehydrates to a good color.

Parsley and Other Herbs

Wash to remove all dust, cut away any wilted or decayed parts, and dry without separating leaves and stems. Place on tray to a depth of 2 or 3 inches and set in dryer.

Starting temperature, 110° F.
Finishing temperature, 145° F.
Approximate time, 45 minutes to 1½ hours.

If no moisture can be pressed from thick part of stems the product is sufficiently dried.

"Condition" as directed on page 67.

If desired, before packing, part of the product can be powdered and stored in glass jars.

Parsnips

This is one of the vegetables that should not be used if old, as it develops a woody, fibrous center. Wash, scrape and wash again, cut into slices one-eighth inch thick and place on tray. Blanch in steam for 3 minutes, remove tray and shake to drain. Then place in the dryer.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about 3 to 4 hours.

Parsnips are sufficiently dry when no moisture can be pressed from a cut edge.

"Condition" as directed on page 67.

Peas

Select young and strictly fresh-picked peas, and on no account use any that have stood until pods are wilted. A quick way to shell the peas is to place the washed pods in a large saucepan of boiling water and leave for 6 minutes. Then drain on to the tray and rub the pods briskly over the tray with the hands to loosen the peas, and if the mesh is too fine for them to drop through, it is a simple matter to shake the peas to one end and empty them on to another tray. When one tray is loaded to a depth of about 1 inch, steam-blanch for 2 minutes, remove tray, shake to drain and set in dryer.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about $3\frac{1}{2}$ to $4\frac{1}{2}$ hours.

To test when dry cut open, and if no moisture shows in center remove from dryer.

"Condition" as directed on page 67.

Peppers

The small pods may be dried whole like okra pods. Larger peppers should be placed on plates in the oven until the skins blister, then peel with the fingers. Cut large peppers into strips one-eighth of an inch wide, discarding all seeds, or they may be cut in halves,

in which event remove the midribs. Place on trays and dry without blanching.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about 3 hours or longer, depending upon how the product is prepared, — whether cut small or left whole.

The whole and cut peppers are sufficiently dried when no moisture can be pressed from a cut edge.

"Condition" as directed on page 67.

Potatoes

White Potato

If a peeling machine is used, there will be less waste if potatoes of uniform size are used. While washing the vegetable, grade for size. Peel vegetable thinly and drop immediately into cold water to keep it white. When sufficient have been peeled to fill one tray, the potatoes should be sliced one-fourth of an inch thick directly onto the tray. Each tray can be loaded 1 inch deep. Place the filled tray in the steam container and blanch for 3 minutes; remove from steam, dip the tray into salted tepid water for a minute, drain by shaking and place in the dryer.

Starting temperature, 120° F.
Finishing temperature, 160° F.
Approximate time (according to age).

Potatoes are dried until they are brittle.

"Condition" as directed on page 67.

If a variety is desired, cut some of the sliced potatoes into Julienne strips or larger strips (five-eighths of an inch thick), like French fried. Again, these vegetables can be steamed until cooked in their jackets, then the skins peeled off with the fingers and the cooked potatoes pressed through a ricer directly onto the trays. If you have no ricer put them through your food chopper, loading each tray direct from the chopper. Spread evenly on the tray and place in the dryer. When dried mark the container holding this product "Dehydrated Mashed Potato." Directions for using this are found on page 153, in last part of recipe for Mashed Potatoes.

Sweet Potato

Select potatoes of uniform size and wash well with a brush. Place in a saucepan with boiling water and boil until slightly tender. Drain and peel at once by scraping the skins. Sweet potatoes can also be pared in a peeling machine. Cut the precooked potato into one-eighth inch thick slices directly onto the tray, loading it to a depth of 1 inch, then set tray in dryer.

Starting temperature, 125° F.
Finishing temperature, 155° F.
Approximate time (according to age).

The test for sweet potatoes is the same as for white ones.

"Condition" as directed on page 67.

Prepare some of the sweet potatoes by cooking in boiling water until nearly done, then remove skins and put through food chopper. Load tray evenly and place in dryer, using same temperature as above. When product is brittle it is dried. This is a "Dehydrated Mashed Sweet Potato," and is your sweet potato flour when ground. (See Sweet Potato Pie, on page 193.)

Pumpkin

Select a firm, deep-colored pumpkin and cut into strips 2 or 3 inches wide. Peel, remove seeds and soft, stringy centers, then cut into slices one-eighth of an inch thick. Place prepared pumpkin on trays to a depth of an inch, and place directly into the dryer without blanching.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about 3½ to 4 hours.

Pumpkin is sufficiently dried when no moisture can be pressed from a cut edge.

"Condition" as directed on page 67.

Rhubarb

The firm, prime stalks give best results. When very young do not skin, but if the rhubarb is old, then peel. Cut into pieces about a half inch long, cover the trays with one thickness of clean cheesecloth, then

load trays with rhubarb an inch thick and steam-blanch for 1½ minutes. Remove from steam, shake to drain and place in dryer.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time (according to age).

Cut a piece of dried rhubarb and press cut edge. If no moisture shows, it is sufficiently dried.

"Condition" as directed on page 67.

Spinach and Similar Produce

Look over the vegetable very carefully, removing all wilted, decayed leaves and foreign matter, and cutting off the roots. Have a dishpan filled with water as hot as for dish washing, put in the spinach and wash carefully. Lift out spinach, pour off water, rinse pan and return spinach. Add more hot water and rinse thoroughly, then lift out the vegetable and place on trays. While loading the trays cut off the stems and dry them on a separate tray. Load tray to a depth of several inches, shake to drain the product, then place in dryer.

Starting temperature, 110° F.
Finishing temperature, 130° F.
Approximate time, about 1½ to 2½ hours.

Spinach is dry when the thick part can be pressed without showing moisture, but be careful not to overdry or the product breaks.

"Condition" as directed on page 67.

The stems of spinach are dried separately from the leaves, as they usually require longer time, and if they were left on, the leaves would probably be dried to a powder stage when the stems were ready. After drying and "conditioning" the leaves and stems separately they may be mixed and then packed. The spinach can also be cut into slices one-eighth inch thick. This will materially hasten the drying, reducing the time to about 1 hour. Celery leaves, Swiss chard and beet tops are treated the same as spinach. The heavy midrib of the chard is cut out and dried separately from the leaf.

Squash

I prefer a late squash to the summer variety. Cut into strips 2 inches wide, peel and remove soft centers and seeds. Cut into slices one-eighth inch thick. Place on trays and insert in the dryer without blanching.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about $3\frac{1}{2}$ hours.

Drying is finished when no moisture can be pressed from a cut piece.

"Condition" as directed on page 67.

Tomatoes

Select firm, sound tomatoes that are ripe. Remove skins by placing in a wire basket and scalding in boiling

water for from 1 to 1½ minutes, or until skins crack. When cool enough to handle pull off the skin and cut out core; also remove any blemishes. Cut crosswise into slices one-fourth of an inch thick. Cover trays with a piece of clean cheesecloth, then place slices in a single layer and insert trays in the dryer.

Starting temperature, 110° F.
Finishing temperature, 140° F.
Approximate time, about 2 to 3 hours.

When tomatoes are sufficiently dried no moisture can be pressed from fleshy part of the slice.

"Condition" as directed on page 67.

Soup Mixtures

These consist of different kinds of dehydrated vegetables rather finely cut and mixed in varying proportions according to the flavors desired. A good way to do is to use proportions as given in your favorite recipe.

The vegetables usually combined in these mixtures are onions, carrots, turnips, cabbage, celery, parsley, potatoes and green pepper. Dry separately.

For a vegetable soup the vegetables look daintier if cut in different shapes. For instance, potatoes and turnips can be cubed, carrots and peppers in Julienne strips, celery and onions sliced, cabbage shredded and parsley powdered.

Try the following combinations, or arrange your own proportions: —

Soup Mixture No. 1

½ Cup dehydrated carrot strips.
½ Cup dehydrated cabbage.
⅓ Cup dehydrated onion.
⅓ Cup dehydrated turnips.
2 Tablespoons dehydrated green pepper.
1 Tablespoon dehydrated parsley, powdered.

Mix thoroughly and store. When using, take one-half cup of the soup mixture to 2 quarts of liquid.

Soup Mixture No. 2

2 Cups dehydrated tomato.
⅔ Cup dehydrated onion.
½ Cup dehydrated carrot.
1 Cup dehydrated cabbage.
¼ Cup dehydrated green pepper.
½ Cup dehydrated celery leaves.
2 Tablespoons dehydrated parsley, powdered.

Mix thoroughly before packing. This gives 5 cups of dehydrated vegetables, which is sufficient to flavor from 20 to 24 quarts of liquid. From this you can readily see how far the soup mixture goes. It is in a most convenient form, and is a decided addition to many dishes, especially those of the pot-roast style. Have all soup vegetables finely cut, as this gives best flavoring.

CHAPTER VIII

VEGETABLE FLOURS AND MEALS

Under this heading may be found —

Pea meal or flour.
Bean meal or flour.
White potato meal or flour.
Sweet potato meal or flour.
Pumpkin meal or flour.
Squash meal or flour.
Tomato meal or flour.
Corn meal or flour.
Spinach meal or flour.

Potato Flours

A very excellent grade of home-made potato flour is prepared as follows: —

Make sure that both the sweet and white potatoes are dehydrated until they are brittle. After "conditioning" run these products separately through your food chopper, using a medium-coarse knife, then change to the finest knife and run it through twice. This produces a fine product. Shake through several sifters, starting with the coarser mesh and finishing with a fine one. Your finely sifted home-made potato flour is ready to be made up into various recipes, such as combining with corn meal or wheat flour into muffins,

biscuits, griddle cakes, waffles or breads, and even into a good pastry if used in proportion of about one-eighth potato flour to balance of wheat flour.

The first sifting of the flour was coarse, and this can be kept to use in potato croquettes, soups or for thickening sauces, etc.

The sweet potato flour is all ready to have the custard addition, then turned into a pastry lined pie tin as a Sweet Potato Pie; see page 193.

Pumpkin Flour

This is prepared by drying the pumpkin until it is brittle, then "conditioning," putting through the food chopper, and sifting as is done with potato flour. When so prepared it is no trouble to make pumpkin pie, timbales or any other dish in which mashed pumpkin is the foundation. In fact, with a supply of dehydrated vegetables made into flour or meal in your kitchen pantry it is far easier to make many dishes than when one must start with the preparation of the raw vegetable.

These two recipes are given simply as a guide to direct you so that you can make any one or all of the meals in the list. The main point to remember is that any dehydrated vegetable that is to be ground up into meal must first be dried until it is brittle, or it cannot be put through either your food chopper or your hand-flour mill and give a satisfactory product.

CHAPTER IX

HOME DEHYDRATING (FRUITS)

Both the large and small fruits can and should be dehydrated. Many of the directions given for vegetables are applicable to fruits.

Only firm, ripe fruits should be used if their original shape and color are to be retained in both the dried form and when rehydrated.

Naturally, after the fruit has been cooked, it will be changed in shape, and frequently the color will be somewhat different, in many cases this being accentuated after the addition of the sugar.

To wash the tender small fruits such as berries, place them in a shallow flat strainer and hold them under the cold-water faucet. Let the water run gently on them. This can readily be done if the hand is held under the faucet so that the water first strikes the hand, and then trickles off on to the fruits. Be careful that the berries are not crushed or broken, as that means a loss of juice, which naturally would impair both color and flavor.

After washing, the berries are drained and gently rolled out of the strainer on to the trays, which should be covered with a thickness of clean cheesecloth. This is done to prevent the fruit from coming in contact with the metal trays, as the acid would cause chemical action.

While the berries are being placed on the trays any

wilted, unripe ones can be removed; also leaves or any foreign matter.

Fruit should be promptly placed in the dryer after its preparation. Be very careful not to load the trays more than two layers deep. Berries are very tender fruit, and if loaded deeper they will be crushed out of shape. During drying examine the trays, and if fruits are lumping and sticking together, separate carefully so that the drying is done evenly.

The test for drying is by pressing a cut edge, and if no moisture exudes the product is sufficiently dried.

After drying the "conditioning" period must be observed, as with vegetables. When this is finished the fruits are stored in similar containers, and should preferably be kept in the dark so that they will not be faded by the light.

Apples

Select firm, sound fruit. Remove cores with a coring machine or knife, if apple is to be cut into rings, and pare quickly. As soon as peeled cut into slices one-fourth inch thick and place on trays about 1 inch thick. As soon as a tray is ready it should go immediately into the dryer and other trays loaded as quickly as the apples are pared. The quicker this is done the better the product, as there will be less danger of oxidizing or discoloration.

Starting temperature, 120° F.
Finishing temperature, 160° F.
Approximate time for drying, 5 to 6 hours.

Length of time depends upon the kind of apple, as well as thickness of slices. Apples are sufficiently dried when a cut edge is pressed and no moisture is noticed.

"Condition" as directed on page 67.

Apricots

Use firm fruit, but well-ripened. Reject all soft apricots and cut away any bruises. Cut in halves without peeling, remove stone and lay in single layer on trays with cut side up. As soon as loaded place trays in the dryer.

Starting temperature, 120° F.
Finishing temperature, 150° F.
Approximate time for drying, 5 to 7 hours.

Apricots are dried when no moisture can be pressed from a cut edge.

"Condition" as directed on page 67.

Bananas

Select firm, ripe, yellow bananas. Remove skins and cut lengthwise into quarters, or crosswise into slices one-eighth inch thick. Place in single layer on trays, dust *very lightly* with powdered sugar, shaking off all surplus, and set trays in the dryer.

Starting temperature, 110° F.
Finishing temperature, 135° F.

Do not have heat any higher or the fruit will soften.

"Condition" as directed on page 67.

Blackberries

Select such fruit as you would for table use. Look over, rejecting decayed and wilted berries, and wash if necessary. This can be done as follows: place berries in a shallow wire basket, hold the hand under cold water faucet, and let water trickle on fruit through the fingers. Drain and place berries in single layers on trays lined with one thickness of cheesecloth. As quickly as loaded set trays in dryer.

Starting temperature, 120° F.
Finishing temperature, 150° F.
Approximate time for drying, 5 to 7 hours.

Berries are dried when no moisture can be pressed when berries are cut.

"Condition" as directed on page 67.

Cherries

Perfectly sound fruit should be selected and all of one color kept together. Look over before pitting, removing all decayed and crushed cherries. Both the sweet and sour cherries may be dried. There is less loss of juice if fruit is dried whole, with pit left in. Where cherries are large they may be pitted with a machine, the juice saved and sterilized. Some cut the fruit in halves. If this method is followed the cut side should be placed uppermost on the dryer to prevent further loss of juice. As soon as prepared load cheesecloth

covered trays two layers deep and place at once in the dryer.

Starting temperature, 115° F.
Finishing temperature, 145° F.
Approximate drying time for cut fruit, 4 to 5 hours.

Cherries are dry if no moisture shows when a cut edge is pressed.

"Condition" as directed on page 67.

Cranberries

If this fruit is dehydrated it is available at any time of the year. Examine and remove all decayed and broken-down fruits; likewise unripe berries. Cut in halves and place on cheesecloth-covered trays to a depth of a half inch, and set in dryer.

Starting temperature, 120° F.
Finishing temperature, 145° F.
Approximate drying time, 2 to 3½ hours.

Berries are dry when no moisture can be pressed from a cut edge.

"Condition" as directed on page 67.

After product is dried stems can be readily removed.

Currants

The cherry currant gives the better dried product. Remove soft and decayed fruit, but do not stem, as this can be done after drying. Load cheesecloth-

covered trays to a depth of an inch and place in dryer.

Starting temperature, 120° F.
Finishing temperature, 145° F.
Approximate drying time, 3 to 5 hours.

Currants are dried when no moisture can be pressed from a cut edge.

"Condition" as directed on page 67.

Peaches

The yellow fleshed peaches give a richer looking finished product than do the white fruit. These may be peeled or not. A quick way to peel is to place peaches in wire basket and immerse in boiling water for a minute until skins crack. Remove from water, drain and pull skins off with the fingers. Cut fruit in halves, remove stones and place on cheesecloth-covered tray with cavity side up, loading trays one layer deep, and place each tray in dryer as soon as it is ready. Work quickly so that the fruit does not darken by being exposed to the air.

Starting temperature, 120° F.
Finishing temperature, 150° F.
Approximate drying time, 5 to 7 hours.

Peaches are dried when the product is leathery. Press a cut edge to determine if there is any moisture.

"Condition" as directed on page 67.

Peaches may be cut in quarters if desired, or sliced.

Pears

These should be perfectly ripe but of firm texture. Pare, cut in halves or quarters, remove cores and place on cheesecloth-covered trays with cavity side up. As soon as a tray is loaded it should go into the dryer. There should be no undue delay in the preparation of fruits for the dryer, and this is especially true of the kinds that tarnish quickly when their pared and cut surfaces are exposed to the air.

Starting temperature, 110° F.
Finishing temperature, 150° F.
Approximate drying time, 6 hours.

When dried there will be no moisture when cut edge is pressed, and the product will be leathery.

"Condition" as directed on page 67.

Plums

Thoroughly ripened fruit should be selected in which the sugar is well developed. Cut in halves, removing stems and pits, load on cheesecloth-covered trays with cavity side up, and to a depth of one layer only. Place in dryer as soon as each tray is ready.

Starting temperature, 110° F.
Finishing temperature, 150° F.
Approximate drying time, 5 to 6 hours.

When dried there should be no moisture when a cut edge is pressed. Product should be like peaches, — somewhat leathery.

"Condition" as directed on page 67.

CHAPTER X

COOKING DIRECTIONS

In restoring the dehydrated products you will notice that some take more time to rehydrate, or bring back, just as some require more time to dry than others do.

Where long soaking is necessary, say 8 or more hours, it is convenient to put the product to soak over night.

It is advisable to soak the food in a deep bowl, with the amount of water needed, and turn into the saucepan when ready for cooking.

Do not have heat too strong at first, but bring gradually to boiling point, and then boil gently (a little more than simmering) until tender.

The water in which vegetables are soaked and cooked should be used as part of the liquid in the sauce (see recipe for Vegetable Sauce, page 109) when the vegetable is served with one. The liquid may also be used in soups, thus obtaining flavor and utilizing the mineral salts that were dissolved during the boiling of the vegetable.

Vegetables may be soaked in tepid water instead of cold, which will hasten their restoration.

If dehydrated foods are being soaked in hot weather, they should be placed in the refrigerator or other cold place. Then cook as soon as the product has been restored.

Where dehydrated products are to be used for flavoring, break or cut into small pieces before soaking.

Fruits as well as vegetables should be cooked in the same water in which they are soaked. Bring very slowly to boiling point and simmer for 15 minutes, then drain, add sugar to liquid, reheat until boiling, add fruit and simmer until tender. Best results are always obtained by very slow cooking. A fireless cooker serves excellently for this purpose.

Regarding length of time necessary to rehydrate the dried product, this depends largely upon how the material was treated before dehydrating. A vegetable that was cooked until tender, then dehydrated, will restore quicker when soaked, and will cook in a very short time.

Furthermore, after the food is dehydrated, if it is ground into a powdered form, little time will be required for cooking, and no previous soaking is necessary.

If your dehydrated products are cut in different ways, such as sliced, diced or into strips, select the style of product best suited to the recipe. As an example, sliced potatoes would be your choice for escalloped potatoes.

The thoughtful and careful housekeeper who plans her meal in advance will find that dehydrated products are very easy to serve. The foods that require long rehydrating may be soaked over night for a midday meal, putting them to soak as late in the evening as is convenient. And for the evening dinner, start soaking dehydrated products early in the morning.

Suppose, in looking over the recipes included herewith, that a housekeeper plans her meals ahead for a week. The recipes given, generally speaking, are sufficient to serve four people. With this in mind any one can cut the proportions in half or double them, according to requirements. Or if one wishes to cook enough of any one kind of the dehydrated product for a second meal, follow the Preliminary Directions, and the food is then ready to be served in any way desired.

There are also a number of recipes for dishes that are really a meal in themselves, and, with the addition of bread and butter, a salad dessert or fruit, nothing more is required. Any one of the following will furnish a most delicious meal and one requiring but little work: —

Savory Meat Stretching Dish (page 114).
One-dish Meal (page 115).
Corn Chowder (page 137).
Pot Roast and Vegetables (page 116).
Vegetable Stew (page 117).

Measurements for Cooking Dehydrated Vegetables

The cup specified in the recipes is the cook's half-pint measuring cup, and when dehydrated products are used the cup is measured heaping full.

A tablespoon or teaspoon means all that the spoon will hold.

The above refer to dehydrated vegetables that are cut into dices, slices or Julienne strips.

When the product is finely cut before dehydrating, more can be put into the cup than when the pieces are larger. In this event use level measure; also when the dehydrated product is powdered, use level measure.

Unless otherwise stated, all other ingredients are measured level.

CHAPTER XI

SOUPS

Chicken Soup

As the meat portion, use carcass either of a roasted chicken or a small turkey. Break into pieces, removing all the stuffing.

- ⅓ Cup dehydrated onions.
- ¼ Cup dehydrated celery leaves.
- 2 Tablespoons uncooked rice.
- Salt and pepper to your taste.

Put vegetables into saucepan, add bones and meat and sufficient cold water to nearly cover the bones, bring slowly to boiling point, add salt and pepper and simmer for an hour and strain. Blanch rice for 5 minutes in boiling water, drain, add to strained stock and cook until rice is tender. Serve in bouillon cups.

Beef Stock

- 4 Pounds beef shin.
- ¼ Cup dehydrated turnip, cut small.
- ¼ Cup dehydrated carrots, cut small.
- ¼ Cup dehydrated cabbage, cut small.
- ¼ Cup dehydrated onion.
- 1 Cook's Bouquet. (See page 106.)
- 2 Quarts cold water.
- Salt to taste.

Put all vegetables in one-half the water and let soak while you are cutting up the meat. Crack bone, cut meat into small pieces and brown part of the meat in marrow. Put balance of meat and bone in the cold water and bring slowly to boiling point. Add browned meat and rinse out the pan in which it was browned with a very little hot water and add to soup pot. Let this simmer for an hour, then gradually bring the soaked vegetables and water to a boil, add to meat stock, also "bouquet," and salt to taste; simmer for several hours. Strain through colander, and when liquid is cold remove all fat. May be served as clear soup, or, if desired, add a quarter cup of Soup Vegetable Mixture which has been soaked for a half hour in the stock; then cook gently until vegetables are tender, — usually about 20 minutes, as vegetables are finely cut.

Cream of Celery

1½ Cups dehydrated celery.
4½ Cups cold water.
1 Tablespoon dehydrated onions.
2 Cups milk.
4 Tablespoons butter.
4 Tablespoons flour.
Salt and pepper.

Soak celery and onions in cold water for 8 hours and cook until tender in same water, then press through a sieve. Melt butter in a saucepan, add flour and stir

it over the fire, then add milk and vegetable purée, stirring until slightly thickened. Season to taste and serve at once.

Cream of Mushroom Soup

½ Cup dehydrated mushrooms.
4 Cups cold water.
4 Tablespoons butter.
¾ Cup thin cream.
3 Tablespoons flour.
Salt and pepper.

Soak mushrooms in water for several hours, then cut mushrooms into fine pieces and simmer until tender. Reserve a tablespoon of the cooked mushrooms and press rest through a strainer with the liquid. Blend together the butter and flour and stir into the mushroom liquor; add salt and pepper and bring to boiling point; add cream and the tablespoon of mushroom pieces. Serve in bouillon cups.

Onion Soup

1 Cup dehydrated onion.
3 Cups cold water.
1½ Cups Thin White Sauce. (See page 109.)
Salt and pepper.
Small slices of bread, toasted, 1 slice for each person.
2 Tablespoons bacon fat.

Soak onions in cold water for 8 hours, then simmer until onions are very tender, strain onions from liquid

and brown them in the bacon fat. Then add onion liquor to them and the white sauce; add seasonings and bring to a good boil. Place the toasted bread in a hot tureen, pour in the soup and serve immediately.

Potato Soup

½ Cup ground dehydrated potato.
3 Cups water.
2 Cups milk.
½ Teaspoon dehydrated parsley, powdered.
Salt and paprika.

Bring water to a boil, add ground potato slowly, while stirring, and boil for 15 minutes. Scald milk in double boiler, add to potato, season with salt and paprika and pour into a tureen. Sprinkle parsley crushed between fingers over the soup, and serve. If liked thicker, blend a little butter and flour to a paste, stir into boiling soup and boil for several minutes.

Pea Soup

2 Cups dehydrated peas.
2 Quarts cold water.
Ham bone or bacon rind.
2 Tablespoons each dehydrated onions and carrots.
Pepper.
3 Tablespoons butter.
1½ Tablespoons flour.
Croûtons.

Soak onions, carrots and peas in water over night; next morning add ham bone and cook slowly until vegetables are very soft. Remove bone and press rest through a strainer. Blend together the butter and flour, add to purée, reheat to boiling, and boil for several minutes to cook the flour. Season to taste. Pour in hot tureen, sprinkle over 1 cup croûtons, and serve.

Tomato Bisque

1½ Cups dehydrated tomatoes.
3 Cups cold water.
2 Cups Thin White Sauce. (See page 109.)
¼ Cup dehydrated onions, cut small.
1 Tablespoon dehydrated green pepper, cut small.
¼ Teaspoon soda.
2 Teaspoons granulated sugar.
Salt and pepper to taste.

Soak tomatoes, onions and green peppers in cold water for 4 hours, then simmer until vegetables are tender and press all through a strainer. Reheat tomato, adding sugar, salt and pepper. Heat white sauce in double boiler, add soda to tomato, stir thoroughly and combine with white sauce, stirring while mixing. Serve in hot bouillon cups with a spoon of whipped cream, and on top of this a delicate touch of powdered dehydrated parsley.

Vegetable Soup

2 Quarts soup stock.
½ Cup dehydrated soup mixture. (See page 85.)

Soak vegetables in stock for 10 minutes, then bring slowly to boiling point and simmer until vegetables are tender. Instead of using soup stock, cold water and bouillon cubes may be used. Soak and cook vegetables in water until tender, dissolve cubes in a cup of the boiling liquid, add to vegetables, bring to boiling point and serve. In this way a vegetable soup may be quickly prepared, requiring about a half hour.

Many other soups may be made from the dehydrated products by using the recipes given here as a basis for other soups. To save time, put the dehydrated product through a food chopper, or if the product is dried until brittle it can be ground into coarse meal through the hand-flour mills. In this event soaking is not necessary.

CHAPTER XII

VEGETABLE AND PUDDING SAUCES AND SALAD DRESSINGS

Vegetable Sauces

Brown Sauce

1 Teaspoon dehydrated onion.
1 Teaspoon dehydrated carrot.
3 Tablespoons warm water.
4 Tablespoons butter.
¼ Cup flour.
2 Cups soup stock.
Small Bouquet. (See page 107.)
Salt and pepper to taste.

Soak onion and carrots in warm water for 10 or 15 minutes, then cook in water until liquid is evaporated. Add butter, Small Bouquet and stir constantly until butter browns; butter must not burn. Add flour and continue stirring until browned, then add stock and bring to boiling point; boil for a minute, then strain and add salt and pepper to taste.

Cheese Sauce

2 Tablespoons butter.
2 Tablespoons flour.
1 Cup milk.
½ Cup grated cheese.
Salt, pepper and dry mustard to taste.

Melt butter, add flour and stir over fire for 2 minutes, add milk and stir until sauce is smooth and slightly thick, then add cheese and seasonings and stir until well blended.

Cook's Bouquet

1 Bay leaf.
2 Sprigs of thyme.
1 Blade of mace.
12 Peppercorns.
2 Cloves.
5 Sprays of dehydrated parsley.

Soak parsley in cold water for 15 minutes, then lay the sprays in palm of left hand. Place the spices in the parsley, then fold over parsley so the spices are hidden; tie securely with a clean white cord. By using the Bouquet in soups no one flavor predominates, but a delicate blending of all is given to the soup.

Hollandaise Sauce

2 Yolks, unbeaten.
8 Tablespoons butter.
1 Tablespoon lemon juice.
5 Tablespoons boiling water.
Salt and pepper.

Wash butter and divide into three portions. Put yolks, lemon juice and one piece of butter in upper part of small double boiler. Place over boiling water and stir constantly until butter is melted. Then add another piece and continue stirring, then the last piece of butter.

When melted and sauce thickens, add boiling water and let cook for a minute, still stirring constantly. Remove from fire and season to taste.

Small Bouquet

½ Small bay leaf.
1 Small sprig of thyme.
5 Peppercorns.
2 Sprays dehydrated parsley.

Put together as directed in Cook's Bouquet and use for flavoring sauces.

Sauce Tartare

½ Cup Mayonnaise Dressing. (See page 112.)
½ Tablespoon chopped olives.
½ Tablespoon chopped gherkins.
½ Tablespoon chopped capers.
1 Teaspoon dehydrated parsley.
1 Teaspoon dehydrated onion.
2 Tablespoons cold water.

Cut onion into very small pieces with scissors. Powder parsley with fingers and cover these with cold water and let soak for 30 minutes. Drain, add to chopped ingredients, and mix thoroughly in the mayonnaise.

Savory Tomato Sauce

(To serve with spaghetti.)

1 Cup dehydrated tomatoes.
1 Tablespoon dehydrated onions.
1 Tablespoon dehydrated mushrooms.
½ Tablespoon dehydrated green peppers.
1¾ Cup cold water.
3 Tablespoons butter.
2½ Tablespoons flour.
1 Teaspoon salt.
⅛ Teaspoon pepper.
2 Teaspoons granulated sugar.
½ Teaspoon dehydrated parsley, powdered.

Soak tomatoes, mushrooms, onions and peppers in cold water for 2 hours, then cook slowly until tender in same water. Melt butter in saucepan, add flour and stir over fire for 2 or 3 minutes; add vegetables and their liquid and stir until slightly thickened. Add seasonings and parsley crushed between fingers. Bring to boiling point and serve.

Thick White Sauce

3 Tablespoons butter.
5 Tablespoons flour.
1 Cup milk.
Salt and pepper.

Melt butter, add flour and stir over fire for 2 minutes; add milk and seasonings, and stir and cook until smooth and thick. Then use as directed.

Thin White Sauce

2 Tablespoons butter.
2 Tablespoons flour.
1 Cup milk.
Salt and pepper.

Make as directed for Thick White Sauce.

Tomato Sauce

¾ Cup dehydrated tomato.
1½ Cups cold water.
1 Teaspoon dehydrated onions.
2½ Tablespoons butter.
2 Tablespoons flour.
Salt and pepper to taste.

Soak tomato and onion in cold water for 2 hours, then cook in same water until vegetables are tender. Melt butter in a saucepan, add flour and cook for two minutes while stirring constantly. Add cooked vegetable pulp (pressed through a strainer), liquid and seasonings. Stir over fire until boiling hot. If tomato is very acid a pinch of soda should be stirred into the tomato before straining.

Vegetable Sauce

3 Tablespoons butter.
3 Tablespoons flour.
⅔ Cup water in which vegetables were boiled.
⅔ Cup top of bottle of milk.
Salt and pepper to taste.

Melt butter, add flour and stir over fire for 2 minutes. Add liquid and stir until sauce is smooth and slightly thick, then season to your taste. Using the water in which the vegetable was boiled as part of your liquid adds to the sauce the mineral salts and other solubles which usually find their way down the sink.

Pudding Sauces

Hard Sauce

1 Cup powdered sugar, sifted.
6 Tablespoons butter.
1 Teaspoon flavoring.

Cream butter, then add sifted sugar gradually, and then flavoring. If wished as a decorative sauce, place on ice until quite firm, but not hard, press through a pastry bag and tube on to chilled plate, and return to ice box. When ready to use, dip a thin, flexible-bladed knife in boiling water, run blade under each rosette and place on the pudding or at the side, as desired.

Nutmeg Sauce

1½ Tablespoons corn starch.
¼ Teaspoon salt.
4 Tablespoons sugar.
1 Cup cold water.
1 Tablespoon butter.
Grated nutmeg to flavor.

Sift cornstarch, salt and sugar into a saucepan, add water and stir over the fire for 5 minutes, then add butter and nutmeg. May be used either hot or cold.

Ruby Sauce

½ Cup currant jelly.
1 Tablespoon butter.
4 Tablespoons raspberry juice.

Melt butter in double boiler, add raspberry juice and jelly, and stir with a fork until jelly is nearly dissolved. Remove quickly from fire and serve at once. The sauce is very effective when small pieces of red-colored beads show through it. Raspberry juice may be obtained by crushing 2 tablespoons dehydrated raspberries, covering with cold water and soaking for two hours. Then simmer until soft, strain and use liquid. Sweeten slightly while hot.

Salad Dressings

French Dressing

4 or 5 Slices dehydrated lemon.
½ Teaspoon salt.
¼ Teaspoon pepper.
8 Tablespoons olive oil.
3 Tablespoons cold water.

Soak lemon in cold water for 1 hour, then drain, saving water, and press lemon in a lemon squeezer. Put the ingredients in a glass mixing bottle and shake until well blended. Chill in refrigerator.

Boiled Mayonnaise

4 Yolks.
4 Tablespoons mild vinegar.
8 Tablespoons olive oil.
1 Teaspoon salt.
1½ Teaspoons dry mustard.
2 Teaspoons sugar.
4 Whites of eggs beaten stiff, or —
1 Cup whipped cream.

Put yolks in double boiler, add vinegar and half the oil. Mix thoroughly and stir over boiling water until mixture is creamy. Remove from fire and chill. Then add seasonings and balance of oil slowly. When perfectly smooth, place in a jelly glass in refrigerator and add white of egg when ready to serve.

The cooked part of the dressing will keep for some days, and the cream or white of egg may be added as desired.

Mayonnaise Dressing

2 Yolks.
3 Tablespoons lemon juice.
1 Tablespoon tarragon vinegar.
1 Teaspoon salt.
1 Teaspoon sugar.
1 Teaspoon dry mustard.
1½ Cups olive oil.

Sift salt, sugar and mustard into bowl, add yolks and mix well, then vinegar. Add oil a teaspoon at a time at first, then when sauce begins to thicken add a

little lemon juice and continue until all the oil and lemon juice are used. When made keep in refrigerator until ready to use. Add paprika at the last, when mayonnaise is in its serving dish or mixed with salad, as this gives a decorative touch to the dressing. It is not necessary to have materials chilled before mixing, but it is most essential that the temperature of all ingredients should be the same.

Stiff Mayonnaise

To proportions given in Mayonnaise Dressing add 1 teaspoon granulated gelatine soaked in 1 tablespoon cold water for 5 minutes, then stirred over boiling water until dissolved. Stir until well mixed with dressing. When cold this can be pressed through pastry bag and tube so as to form roses, rosettes, etc., as a decoration to the salad.

CHAPTER XIII

ONE-DISH DINNERS

A Savory Meat-stretching Dish

2 Cups dehydrated potatoes.
½ Cup dehydrated onions.
⅔ Cup dehydrated carrots.
½ Cup dehydrated turnips.
8 Cups cold water.
1 Pound beef.
2 Tablespoons minced suet.
Salt and pepper to taste.
1 Tablespoon parsley.

Soak each vegetable separately in cold water for several hours; drain and dry with a towel the onions, turnips and carrots. Cut the meat into small pieces or put through food chopper, using the coarsest knife. Try out the suet and cook the onions, turnips and carrots in it until slightly browned; add 4 cups boiling water and the meat, and cook very slowly for 1½ hours; add salt and pepper and the soaked and drained potatoes. Continue simmering until potatoes are tender, adding more boiling water as needed. When finished there should be about 1 pint of liquid. Drain off liquid, place vegetables and meat on a hot platter, thicken liquid with 2 tablespoons flour mixed with a little cold water, bring to a good boil, add 1 tablespoon caramel and pour gravy over the cooked ingredients.

Almost Meatless Hash

1 Cup chopped, cooked meat (corned beef is especially good).
1 Cup dehydrated potatoes.
¼ Cup dehydrated onions.
½ Cup dehydrated carrots.
4 Cups cold water.
3 Tablespoons drippings.
Salt and paprika.

Soak potatoes, onions and carrots separately in cold water for 5 hours, then cook all but onions until tender in same water. Drain and chop fine. Drain soaked onions and sauté in drippings until tender, add other vegetables, meat and seasonings, mix well, add 1 cup boiling water, and cook, stirring frequently, until liquid is absorbed. Allow hash to brown on lower side. Fold like an omelet on hot platter, decorate with parsley, and serve.

One-dish Meal

3 Cups dehydrated tomatoes.
⅓ Cup dehydrated onions.
1 Cup uncooked rice.
1 Cup grated cheese.
3 Tablespoons olive oil.
Salt and cayenne.
1 Teaspoon dehydrated parsley.

Soak tomatoes in 5 cups cold water for 6 hours, and onions in three-fourths cup for same time. Dry

onions on towel and brown slightly in the oil. Add a pinch of soda to soaked tomatoes and cook slowly for 10 minutes, then drain, saving liquid. Combine onions, tomatoes, rice (previously blanched for 5 minutes); add 2 cups of tomato liquid, salt and pepper, and cook slowly until rice is tender; stir lightly with a fork while cooking. Turn mixture on a serving dish, cover thickly with grated cheese, and sprinkle with crushed parsley. Brown in a quick oven. Serve at once in same dish.

Pot Roast and Vegetables

4 Pounds bottom round.
½ Cup dehydrated onions.
¼ Cup dehydrated green peppers.
½ Cup dehydrated carrots.
Noodles.
2½ Cups cold water.
1 Small Bouquet. (See page 107.)
Salt and pepper.

Place vegetables to soak in the cold water for 5 hours, then drain off water and bring it to boiling point. Get a small piece of suet when selecting the meat. Chop suet fine and try out in the saucepan you intend using for the meat. Brown meat on all sides in the fat, then drain off surplus fat. When meat is browned add boiling water, soaked vegetables and Small Bouquet, and let simmer for several hours, until meat is tender, adding salt and pepper when partly cooked. Remove meat, place on serving platter and keep hot

in oven. Strain off the liquid, saving vegetables and discarding bouquet. Parboil noodles in boiling salted water for 5 minutes, drain and finish cooking in the pot-roast gravy. When tender lift out with a strainer and surround the meat with them. Sprinkle over noodles the vegetables that were cooked with the meat. Thicken gravy with flour and water mixed together, adding sufficient boiling water to give about a pint. Boil for several minutes, pour several spoonfuls over the meat, sending rest to table in a gravy boat. Decorate with parsley.

Vegetable Stew

2 Cups dehydrated potatoes.
⅓ Cup dehydrated turnips.
1 Cup dehydrated carrots.
⅓ Cup dehydrated onions.
1 Tablespoon dehydrated green pepper.
4 Tablespoons butter.
2 Tablespoons flour.
3 Cups milk or soup stock.
Salt and pepper.

Place each vegetable separately into a bowl, cover with cold water and let stand for 6 hours, then bring to boiling point and boil for 15 minutes. Drain, combine vegetables, add stock, seasoning and boil until tender. Drain liquid and save it. Melt butter in a saucepan, add flour and stir over fire for 2 or 3 minutes, add liquid and boil, then return vegetables to the sauce and cook slowly for 10 minutes. Any other combination of vegetables may be used.

CHAPTER XIV

RECIPES FOR USING DEHYDRATED VEGETABLES

String Beans

Preliminary Directions. — Soak 1 part dehydrated string beans in 3 parts cold water for 8 hours and cook until tender in same water, adding a pinch of soda to accentuate their color, and salt when vegetable is partly cooked. Time required, about 1½ hours. String beans restore nicely and to almost their natural green color.

Buttered String Beans

1 Cup dehydrated string beans.
3 Cups cold water.
3 Tablespoons butter.
Pepper.

Soak and cook as directed, then drain, return to fire with butter and toss with a fork until well coated. Turn into a hot vegetable dish, dust with pepper and serve. These may be served on the meat platter as a garnish to broiled steak or chops.

Creamed String Beans

1 Cup dehydrated string beans.
3 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)

Soak and cook as directed, and reheat in white sauce.

String Beans in Stock

1½ Cups dehydrated string beans.
4 Cups cold water.
2 Cups beef stock.

Soak and cook dehydrated string beans for a half hour in water in which they were soaked. Drain, add stock and finish cooking until they have absorbed most of the liquid.

String Beans Maître d'Hotel

1½ Cups dehydrated string beans.
4 Cups cold water.
5 Tablespoons butter.
Slight grating of nutmeg.
1 Tablespoon lemon juice.
1 Teaspoon minced parsley.

Soak and cook dehydrated string beans as directed and drain. Cream the butter with a fork, add lemon juice gradually, then nutmeg and parsley, add to the drained cooked beans and toss over the fire until very hot. Excellent.

String Bean Salad

1 Cup dehydrated string beans.
3 Cups cold water.
¼ Cup dehydrated onions.
½ Cup cold water.
1 Tablespoon dehydrated green peppers.
¼ Cup cold water.
French Dressing. (See page 111.)

Soak vegetables in separate bowls in their respective amounts of cold water and cook the dehydrated string beans as directed in Preliminary Directions until tender, then drain and chill. Onions and peppers are soaked for 6 or 7 hours, then drained and used without cooking. Chop peppers fine and onions rather coarse, mix with the chilled string beans. Pour over the French Dressing and let them marinate in it for 20 minutes. Arrange crisp lettuce leaves in a chilled salad bowl, and heap the prepared vegetables in center. Fresh radishes cut into thin slices make an attractive garnish.

String Beans with Bacon

1½ Cups dehydrated string beans.
4 Cups cold water.
3 Slices bacon.

Soak and cook dehydrated string beans as directed, and drain. Cut bacon into small pieces and fry crisp in a frying pan, add drained beans, toss in bacon fat until hot and serve. Delicious.

Beets

Preliminary Directions. — Beets are cooked until nearly if not quite done before skins are removed and the beet cut for dehydrating. Consequently there is no long preliminary soaking necessary (3 hours being quite sufficient), which is a good thing, or the color would not be so deep. But as the cooking before the

beet was cut set and kept the color to a certain extent, the dehydrated beet restores to its attractive bright red color, and compares in every way most favorably with the fresh product.

Buttered Beets

2 Cups dehydrated beets.
4 Cups cold water.
¼ Cup butter.
Salt and pepper.

Soak as directed and cook in same water until done. Drain, add butter and toss over the fire until well coated. Dust with salt and pepper. They will be deliciously sweet.

Beet Salad

2 Cups dehydrated beet (diced are best).
4 Cups cold water.
¾ Cup English walnut meats, coarsely chopped.
2 Hard-boiled eggs.
Crisp leaves of lettuce.
Mayonnaise Dressing. (See page 112.)

Soak and cook as directed in Buttered Beets, drain and chill. Mince whites of boiled eggs, add with nutmeats to beets and moisten with mayonnaise. Arrange lettuce in form of nests, add to each a generous portion of beet mixture, add yolks pressed through a sieve and top with a mayonnaise rosette (stiff mayonnaise forced through rose tube and bag). Add a whole walnut meat and serve very cold.

Creamed Beets

1½ Cups dehydrated beets.
3 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)

Soak and cook as directed in Buttered Beets until tender. Drain and reheat to boiling point in the sauce.

Pickled Beets

1 Cup dehydrated beets (sliced are better than diced).
¼ Cup cold water.
1 Cup cider vinegar.
½ Tablespoon whole mixed spices.
1 Tablespoon granulated sugar.

Mix water, vinegar, sugar and spices and add beets, letting them soak over night. Serve on a small plate as a pickle. (If beets were not thoroughly cooked before dehydrating they must be soaked and cooked first, and then let stand in the pickle.)

Sweet-Sour Beets

2 Cups dehydrated beets.
4 Cups cold water.
1 Cup Sweet-sour Sauce. (See Sweet-sour Cabbage, page 128.)

Soak and cook as directed in Buttered Beets, until tender. Drain and reheat for 10 minutes in sweet-sour sauce. Serve as a vegetable.

Brussels Sprouts

Preliminary Directions. — Soak 1 part Brussels sprouts in 4 parts cold water for 6 hours. Cook until tender in same water, adding salt when half done. Requires from 30 to 40 minutes boiling. These are a most satisfactory dehydrated product and restore to their natural color, showing the gradations of color from the light center leaves down to the dark outside leaves.

Brussels Sprouts au Gratin

1½ Cups dehydrated Brussels sprouts.
6 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
½ Cup grated cheese.
Buttered bread crumbs.

Soak and cook the sprouts as directed, drain. Place a layer in a buttered casserole, cover with sauce and sprinkle lightly with grated cheese; continue in layers of sprouts, sauce and cheese until all is used, covering top with buttered crumbs. Brown in quick oven and serve in same dish.

Creamed Brussels Sprouts

1 Cup dehydrated Brussels sprouts.
4 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
Salt and pepper to taste.

Soak and cook as directed above, drain and reheat in the sauce.

Sautéed Brussels Sprouts

1½ Cups dehydrated Brussels sprouts.
5 Cups cold water.
4 Tablespoons butter.
1 Teaspoon flour.
1 Teaspoon sugar.
Dust with pepper.

Soak and cook the sprouts as directed and drain thoroughly. Return to saucepan, add other ingredients and toss over the fire for several minutes, then serve.

Cabbage

Preliminary Directions. — Soak 1 part cabbage to 4 parts cold water from 5 to 6 hours. Add salt to taste when half done and cook until tender in the same water. Requires about 25 minutes time for cooking.

Baked Cabbage

2 Cups dehydrated cabbage.
7 Cups cold water.
½ Tablespoon salt.
2 Beaten eggs.
¼ Cup cream.
2 Tablespoons melted butter.
Pepper.
Buttered crumbs.

Soak and cook as directed, drain and chop fine. Mix eggs, cream and melted butter and dash of pepper with

the cabbage, place in buttered baking dish, sprinkle top with buttered crumbs and bake until brown. Any left over cold, cooked meat could be finely chopped and mixed with the cabbage to give variety.

Cabbage au Gratin

1½ Cups dehydrated cabbage.
6 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
½ Cup grated cheese.
Salt and cayenne pepper.

Soak and cook cabbage as directed, drain and chop coarse. Butter a baking dish, put in half the cabbage, cover with part of the sauce and sprinkle with cheese, dust with cayenne, and balance of cabbage, cover with sauce and rest of the cheese, and bake until brown. Serve in same dish.

Creamed Cabbage

1½ Cups dehydrated cabbage.
6 Cups cold water.
2 Tablespoons butter.
2 Tablespoons flour.
1 Cup milk.
Salt and pepper.

Soak and cook cabbage as directed. Make a smooth sauce from butter, flour, seasonings and milk. Place cabbage in vegetable dish, pour sauce over it, toss lightly, dust with paprika and serve.

Escalloped Cabbage

1½ Cups dehydrated cabbage.
6 Cups cold water.
3 Tablespoons butter.
2 Tablespoons flour.
1 Cup milk.
Salt and pepper to taste.
Bread crumbs.

Soak and cook cabbage as directed above, drain and chop coarse. Melt 2 tablespoons of butter, add flour and milk, and stir over fire until a smooth, thick sauce; season to taste. Butter a baking dish, put in a layer of chopped cabbage, cover with sauce, and continue in alternate layers until dish is full, having sauce as top layer. Sprinkle over some soft crumbs and dot with balance of butter. Brown in oven and serve in same dish.

Fried Cabbage

1½ Cups dehydrated cabbage.
4 Cups cold water.
1 Cup dehydrated white potatoes.
4 Cups cold water.
Bacon fat.
Salt and pepper to taste.

Soak cabbage and potatoes separately in water, and cook until tender in same water, salting to taste when partly cooked. Drain and mix vegetables and chop

coarse. Melt some bacon fat in a frying pan, put in the vegetables, dust with pepper and fry until browned on the under side. Fold as an omelet and serve on an oblong platter. Garnish with bacon curls, or it may be served with broiled pork chops. A very savory dish.

Cold Slaw

3 Cups dehydrated cabbage.
8 Cups cold water.
1 Beaten egg.
$\frac{1}{3}$ Cup vinegar.
$\frac{3}{4}$ Cup top of the bottle of milk.
2 Tablespoons melted butter.
1 Tablespoon granulated sugar.
1 Teaspoon salt.
1 Teaspoon English mustard.
Dash of cayenne.

Soak cabbage in cold water for 6 hours, drain and chop coarse. Put milk, salt, sugar, mustard and egg in upper part of small double boiler and cook over hot water until thick, stirring constantly; add vinegar gradually, then butter, mix thoroughly and remove from fire. When cold add cayenne and mix sauce with the cabbage. Heap in salad dish and sprinkle with finely chopped red radish peeling. The radish adds both a touch of color and piquancy to the salad.

Sweet-Sour Cabbage

2 Cups dehydrated cabbage.
7 Cups cold water.
¼ Cup dehydrated apples.
1 Cup cold water.
Salt and pepper.
¼ Cup brown sugar.
2 Tablespoons vinegar.
1 Tablespoon flour.
2 Tablespoons butter.

Soak cabbage in 7 cups of water and apples in the 1 cup of water for 5 hours, drain and bring the water to boiling point. Mix apples with cabbage, pour over the boiling water to cover, add salt and boil until tender. Drain, add butter, sugar and vinegar and sprinkle lightly with flour. Toss over fire for a few minutes and turn into a hot dish.

Carrots

Preliminary Directions. — Soak product in 3 parts cold water to 1 part carrot for 1 hour; bring slowly to boil in same water and boil gently until tender, adding salt when half done. Time required, about 30 minutes.

Buttered Carrots

1½ Cups dehydrated carrots.
4 Cups cold water.
¼ Cup butter.
Salt and pepper.

Soak and cook as directed, drain and return to saucepan with butter. Stir over fire until carrots are well coated and boiling hot. Add seasonings and serve around broiled chops or steak.

Carrot Croquettes

2 Cups dehydrated carrots.
4 Cups cold water.
¾ Cup Thick White Sauce. (See page 108.)
1 Yolk.
Salt and paprika.
Bread crumbs.
Deep hot fat.

Soak and cook as directed, drain and mash. Add sauce, seasonings, mix thoroughly; beat yolk and mix. Place in ice box until chilled. Shape into croquettes, roll in fine crumbs, dip in egg (1 white and 1 tablespoon cold water slightly beaten to mix), then again in crumbs. Fry brown in hot fat and drain on brown paper.

Carrots and Peas

1 Cup dehydrated peas.
3 Cups cold water.
½ Cup dehydrated carrots.
1½ Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
Salt and pepper.

Soak and cook carrots as directed, and peas as directed under Preliminary Directions for peas on

page 147; drain vegetables and mix. Reheat in sauce, add seasonings as needed, and serve as a vegetable. Most attractive combination.

Carrots and Turnips

1 Cup dehydrated carrots.
1 Cup dehydrated turnips.
6 Cups cold water.
1½ Cups Thin White Sauce. (See page 109.)
Salt and pepper.

Soak carrots and turnips separately each in half the water for 1 hour, then cook in same water, salted, until tender. Drain and reheat in sauce.

Carrots, peas and turnips may be combined as above, using same amount of each vegetable.

Glazed Carrots

1 Cup dehydrated carrots.
3 Cups cold water.
½ Cup Beef Soup Stock. (See page 99.)
2 Tablespoons butter.
2 Tablespoons granulated sugar.
1 Teaspoon lemon juice.

Soak and cook as directed until tender, drain and place in a baking dish. Sprinkle with sugar and dot with butter. Add lemon juice to stock and pour it over the carrots. Bake in moderate oven until liquid is reduced and vegetable is brown. Serve as a garnish with meat. Carrots have a delicious flavor when cooked in this way.

Lyonnaise Carrots

¼ Cup dehydrated onions.
1 Cup dehydrated carrots.
3½ Cups cold water.
Fat.
½ Teaspoon dehydrated parsley.
Salt and pepper.

Soak onions in half a cup of water and carrots in balance, and cook carrots until nearly done; drain thoroughly. Drain and dry onions on towel. Melt fat in frying pan, add carrots and onions mixed, season with salt and pepper, and cook very slowly for 20 minutes, stirring vegetables occasionally. Sprinkle with powdered parsley and when browned turn into heated dish.

Cauliflower

Preliminary Directions. — Soak 1 part dehydrated cauliflower in 4 parts cold water for 8 hours. Cook in same water, adding salt to taste, until tender, — about 25 minutes. Drain and serve as per any one of the following recipes. If the head of cauliflower was sliced before dehydrating, handle it carefully when cooking so that the slices will not become broken. If the product was separated into the flowerets it will not break quite so easily. While the dehydrated product may be dark in color, it rehydrates and cooks as white as does the fresh.

Baked Cauliflower

2 Cups dehydrated cauliflower.
8 Cups cold water.
1 Cup Vegetable Sauce. (See page 109.)
⅓ Cup buttered breadcrumbs.

Soak and cook as directed, then heap into a casserole dish and pour over the sauce; sprinkle top with buttered crumbs and bake in hot oven until well crusted.

Cauliflower au Gratin

1½ Cups dehydrated cauliflower.
6 Cups cold water.
½ Cup grated American cheese.
Dash of paprika.
⅔ Cup Vegetable Sauce. (See page 109.)

Soak and cook as directed, drain and shape into a mound on a gratin dish. Cover with the sauce, sprinkle thickly with cheese, dust with paprika, and brown in a quick oven. Serve as a vegetable entrée.

Cauliflower Fritters

To give the most attractive dish use dehydrated cauliflower roses instead of slices. Soak for 8 hours in 4 times their bulk of cold water, cook in same water until tender, drain carefully (save water), then dip each piece in —

Fritter Batter

1 Cup flour.
2 Eggs.
1 Tablespoon olive oil.
⅔ Cup (about) cold cauliflower water.
¼ Teaspoon salt.

Sift flour and salt into a small bowl, add liquid gradually, then beaten yolks, mix well and fold in the stiffly beaten whites and lastly the olive oil. Before dipping roses into the batter, have ready the saucepan of hot fat and fry as soon as dipped. Drain fritters on brown paper. Makes an attractive garnish to the meat dish, or may be served with Sauce Tartare. (See page 107.)

Cauliflower Soufflé

1 Cup dehydrated cauliflower.
3½ Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
3 Eggs.
Salt and paprika to taste.

Soak and cook as directed, drain and press through sieve and add to white sauce. Add yolks, unbeaten and one at a time, blending each thoroughly before adding the next one. Beat the whites in a good-sized bowl until stiff, and pour cauliflower mixture into them, mixing lightly but thoroughly. Pour into a buttered covered baking dish and bake, uncovered, in moderate oven until done, — when there is no sound when you

"listen" to the soufflé. Have cover to dish hot and place on soufflé before removing from oven. Serve immediately, as soufflé is apt to fall with change in temperature.

Cauliflower Timbales

1 Cup dehydrated cauliflower.
3½ Cups cold water.
1 Cup soft bread crumbs.
Milk.
1½ Tablespoons melted butter.
3 Eggs.
Salt and pepper, nutmeg.

Soak and cook the cauliflower as directed, drain and press cauliflower through a sieve. Soak crumbs in milk until soft, squeeze dry and add them to the cauliflower, with melted butter, beaten yolks and seasonings. Mix thoroughly and fold in the beaten whites. Have ready individual timbale molds, buttered and crumbed. Fill two-thirds full, set molds in a pan of hot water and cook in oven until firm. Test with knife in center. Turn out on platter and surround with a White or Cheese Sauce. Delicious.

Cauliflower with Cheese Sauce

Use proportions as given in previous recipe. To the sauce add the cheese, and stir it over the fire until blended, then pour it over the cauliflower mound, dusting lightly with paprika and serve without browning. Serve as a vegetable.

Creamed Cauliflower

2 Cups dehydrated cauliflower.
8 Cups cold water.
1½ Cups Thin White Sauce. (See page 109.)

Soak and cook dehydrated cauliflower as directed, then reheat in the white sauce and serve in a hot vegetable dish.

Celery

Preliminary Directions. — Allow 1 part celery and 3 parts water. Soak 8 hours and cook in same water until tender, adding salt when partly done. Drain and serve as per any of the following recipes.

Celery Fritters

2 Cups dehydrated celery.
5 Cups cold water.
½ Cup flour.
1 Egg.
2 Teaspoons melted butter.
Pinch of salt.
⅓ Cup water celery was boiled in.

Soak and cook celery as directed and drain. When cold, dip in batter made as follows: sift salt with flour, add liquid and beaten yolk, then the beaten white and lastly the butter. Fry in deep hot fat and drain on brown paper. Serve as a vegetable garnish for the meat.

Creamed Celery

1 Cup dehydrated celery.
3 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
1 Yolk.

Soak and cook as directed, drain and reheat in sauce to boiling point. Remove from fire, stir in beaten yolk, mix thoroughly and serve in ramequins.

Escalloped Celery

1½ Cups dehydrated celery.
4½ Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
1 Tablespoon lemon juice.
Salt and pepper.

Soak and cook as directed; drain and cook 5 minutes in the sauce. Add lemon juice just as it comes from fire and season to taste.

Corn

Preliminary Directions. — If steamed until nearly cooked before dehydrating, corn will not need to be soaked long before cooking, but if only steamed long enough to blanch before dehydrating, then it needs longer soaking. Allow 1 part corn to 2 parts cold water, and soak for 4 hours, then cook slowly in same water until tender, — about 45 minutes.

Corn Chowder

¾ Cup dehydrated corn.
1 Tablespoon dehydrated onion.
1 Cup dehydrated potatoes.
4 Cups hot milk.
2 Tablespoons fat salt pork, minced.
2 Tablespoons butter.
Salt and pepper.

Soak corn in 1½ cups cold water over night, potatoes in 3 cups cold water for 6 hours, and the onion in one-half cup cold water for 3 hours. Boil potatoes and corn in same water they were soaked in until tender. Try out the pork, dry onion thoroughly, and fry it in the pork without browning; add corn, potatoes and hot milk, season with salt and pepper. Soften 6 soda crackers in milk. Turn chowder into hot tureen, place crackers over top and serve. A hearty and inexpensive dish.

Corn Croquettes

⅔ Cup dehydrated corn, ground fine.
1 Cup Thick White Sauce. (See page 108.)
1 Egg.
Salt to taste.

Put corn through food chopper or hand mill, add sauce, salt and egg, and set in ice box to chill. Shape into croquettes, roll in soft crumbs, dip in egg slightly beaten with 2 tablespoons cold water, and again roll in crumbs. Fry brown in deep hot fat.

Corn Fritters

⅔ Cup dehydrated corn, ground coarse.
1 Cup milk.
½ Cup water.
1 Egg.
1 Tablespoon sugar.
Salt and pepper to taste.
1 Teaspoon baking powder.
1 Cup (about) flour, or enough to give consistency for drop batter.

Soak corn in milk and water in ice box for several hours, then cook gently until soft. Remove from fire and cool. Sift together the dry ingredients, add to corn with beaten egg, mix well and drop by spoonfuls into deep hot fat, and brown. Drain thoroughly. If corn is ground finer (like meal) it will not require the soaking or cooking. Then omit water and use about one-half cup of milk.

Corn Omelet

¼ Cup dehydrated corn, finely ground.
4 Eggs.
8 Tablespoons milk.
½ Teaspoon salt.
Dash of pepper.
3 Tablespoons butter.

Separate whites and yolks and beat whites until very stiff and yolks until thick. Add milk, seasonings and corn to yolks and mix well, then pour into the

beaten whites, mixing lightly. Melt butter without browning in deep frying pan and pour in egg mixture; place over slow fire and cook until set on the bottom, then place pan in hot oven a minute to cook the top. Holding the pan in the left hand, run a knife under edge of omelet and slip it out on to a hot platter. With one-half of the omelet resting on the platter, fold the other half on top. Decorate with parsley. Delicious.

Corn Relish

½ Cup dehydrated onion.
¾ Cup dehydrated pepper.
3 Cups dehydrated corn.
2 Cups dehydrated cabbage.
2 Cloves garlic.
¼ Cup salt (or to taste).
2 Cups sugar.
⅓ Cup cider vinegar.
1 Ounce English mustard.

Put all vegetables separately through the food chopper, using medium-sized knife, and measure after chopping. Place them in a preserving kettle, cover with cold water and let soak several hours (about 4). If water has been absorbed, add enough more to prevent burning, and cook until soft. Then add sugar, salt and vinegar and boil slowly until thick, stirring often. Mix mustard into a thin paste with vinegar, add to corn mixture, boil 5 minutes, fill into hot jars and seal. Serve as a relish with meats.

Corn, Southern Style

1 Cup dehydrated corn.
2 Cups cold water.
2 Slightly beaten eggs.
2 Tablespoons butter.
2 Cups milk.
Salt and pepper and granulated sugar.

Soak and cook until nearly tender, as directed before. Remove from fire, add butter and seasonings. Mix milk with slightly beaten egg and add to the corn mixture. Turn into a buttered baking dish, set dish in a pan of hot water, and bake in a moderate oven until custard is set. Serve as a vegetable in same dish. The time required for soaking and cooking until nearly tender may be saved if the cup of corn is first put through a flour mill and then mixed with other ingredients and baked.

Creamed Corn and Green Peppers

1½ Cups dehydrated corn.
1½ Tablespoons dehydrated green peppers.
2 Cups cold water.
½ Cup milk.
3 Tablespoons butter.
Salt and pepper.

Soak vegetables in cold water as directed and cook slowly until tender. If water is absorbed, add milk and complete the cooking in a double boiler. When tender add seasonings and butter.

Fried Corn

This is a good way to use up any left-over stewed corn. Place over the fire and simmer until milk has been absorbed, then add some butter and stir over a brisk fire until corn is a golden brown.

Stewed Corn

1 Cup dehydrated corn.
2 Cups cold water.
¼ Cup cream.
Salt and pepper.

Soak and cook as directed, add cream and seasonings and serve.

Succotash

1 Cup dehydrated corn.
6 Cups cold water.
1 Cup dehydrated beans.
4 Tablespoons butter.
Salt and pepper.
Top of bottle of milk.

Soak corn in half the water for 4 hours, and beans in balance of water for 6 hours, then cook both vegetables until tender in same water. Drain, combine vegetables, add seasonings, butter and milk to just moisten. Stir over the fire for 5 minutes.

Eggplant

Preliminary Directions. — Allow 3 times as much cold water as vegetable. Soak for 15 minutes and dry and use as directed.

Eggplant Sauté

8 Slices dehydrated eggplant.
Cold water.
Salt and pepper.
Fat.

Soak the eggplant as directed, drain and dry with towel. Dust each side of the slices with salt and pepper and fry slowly until tender and browned. Drain on brown paper.

Eggplant with Brown Sauce

2 Cups dehydrated eggplant (diced).
5 Cups cold water.
1 Cup Brown Sauce. (See page 105.)
Grated cheese.
Bread crumbs.
Butter.
Salt and cayenne.

Soak in water as directed, drain well and place in baking dish in alternate layers with Brown Sauce, seasoning each layer of eggplant. Bake covered until tender, then sprinkle top with grated cheese, cover this with crumbs, dot with butter and brown quickly.

Fried Eggplant

Sliced dehydrated eggplant.
Salt and pepper.
1 Egg.
1 Tablespoon cold water.
Flour.
Soft bread crumbs.

Soak in cold water for 15 minutes, dry between towels and dust each slice with salt and pepper. Beat egg slightly with 1 tablespoon of cold water, dip each seasoned slice first in flour, then egg, and then in crumbs. Fry in fat until tender and browned. Keep hot in oven until all are cooked.

Mushrooms

Preliminary Directions. — This vegetable adds so much to sauces and other dishes that a supply should be kept on hand. Allow 1 part mushroom and 2 parts cold water. Soak for 1 hour, then cook in same water until tender.

Creamed Mushrooms

1 Cup dehydrated mushrooms.
2 Cups cold water.
2 Tablespoons butter.
2 Tablespoons flour.
½ Cup thin cream or top of the bottle of milk.
Salt and pepper.
1 Teaspoon lemon juice.

Soak and cook mushrooms as directed, then set aside. Melt the butter in a saucepan, add flour and stir over the fire for 2 minutes; add mushroom liquor and stir until sauce is smooth and thick. Add cream, seasonings and mushrooms, stir until boiling, remove from fire, add lemon juice and serve at once.

Mushrooms in Ramequins

1½ Cups dehydrated mushrooms.
2½ Cups cold water.
¾ Cup Thick White Sauce. (See page 108.)
Dash of nutmeg.
Buttered crumbs.

Soak and cook mushrooms as directed, and drain. Add a half cup of the mushroom liquid to the white sauce, reheat mushrooms in it, adding a touch of nutmeg. Pour into ramequins, sprinkle top with buttered crumbs and brown in a quick oven. Serve as a vegetable entreé.

Mushrooms on Toast

1 Cup dehydrated mushrooms.
2 Cups cold water.
½ Cup Thick White Sauce. (See page 108.)
Salt and pepper.
2 Tablespoons cream.
1 Yolk.
Rounds of buttered toast.

Soak and cook mushrooms as directed. Drain and add a half cup mushroom liquid to the white sauce. When boiling add mushrooms and seasonings. Beat yolk, add cream and stir into the mushrooms. Remove from fire, pour it over the toast and serve.

Onions

Preliminary Directions. — Soak dehydrated onions in twice their bulk of cold water for about 6 hours, and cook tender in same water, adding salt when half done. Drain and use as directed.

Creamed Onions

2 Cups dehydrated onions.
4 Cups cold water.
Salt and pepper.
1 Cup Vegetable Sauce. (See page 109.)

Soak and cook dehydrated onions as directed, and drain. Reheat to boiling point in Vegetable Sauce, add seasonings and serve.

Escalloped Onions

3 Cups dehydrated onions.
5 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
Bread crumbs.
Butter.

Soak and cook as directed, drain and place in a baking dish in layers with the sauce. Shake bread crumbs over top and dot with butter. Bake in quick oven until browned. Serve in same dish.

Fried Onions

2 Cups dehydrated onions.
4 Cups cold water.
Fat.
Salt and pepper.

Soak onions for 6 hours, drain and dry between clean towels. Melt some fat in frying pan, add onions, dust with salt and pepper, cover pan and cook very slowly until tender and a golden color, — about a half hour. May be served as a garnish to steak.

Onions in Hash

To use dehydrated onions in hash allow to each pint of chopped meat 2 tablespoons of dehydrated onions. If the meat and potatoes are to simmer for about three-quarters of an hour, the onions need not soak, but can be put through food chopper, then put in saucepan with the amount of liquid that is to be used, and gradually brought to boiling point. Add meat and potatoes and simmer as directed. Dehydrated green peppers may be treated the same way if they are to be used as mentioned above.

Peas

Preliminary Directions. — Soak peas in 3 times their bulk of cold water for 6 hours, then cook in same water until tender, adding salt when half cooked. Drain and use as directed.

Buttered Peas

1½ Cups dehydrated peas.
4 Cups cold water.
3 Tablespoons butter.
Salt and pepper.
½ Teaspoon dehydrated parsley, crushed.

Soak and cook as directed above, drain, add butter and seasonings, and stir over fire until butter is melted.

Peas à la Russe

1 Cup dehydrated peas.
½ Cup dehydrated onions.
4 Cups cold water.
Salt and pepper.
½ Cup uncooked rice.
1 Cup Tomato Sauce. (See page 109.)
½ Cup grated cheese.

Soak peas and onions in water and cook until nearly tender, add seasoning and rice, washed, and cook until tender. If necessary, add a little more water while cooking, but the vegetables should have absorbed the liquid when they are done. Moisten with

Tomato Sauce and turn into a baking dish, sprinkle top with cheese and brown in a quick oven. Serve in same dish for luncheon.

Peas and Carrots in Potato Nests

⅓ Cup dehydrated carrots.
⅔ Cup dehydrated peas.
3 Cups cold water.
⅔ Cup Thin White Sauce. (See page 109.)
Salt and pepper.
Potatoes prepared as for Potato Roses. (See page 156.)

Soak carrots and peas in water for 6 hours and cook until tender. Drain and reheat in sauce, adding seasonings to taste. Form nests on buttered pan with mashed potato, brush with milk, and brown in oven. Transfer nests carefully and arrange as border round broiled chops. Fill centers with creamed peas and carrots, decorate with sprays of parsley and serve. A very attractive dish and one well worth trying.

Peas and Onions

1½ Cups dehydrated peas.
½ Cup dehydrated onion.
4½ Cups cold water.
4 Tablespoons butter.
1 Teaspoon granulated sugar.
Salt and pepper.

Soak onions in 1 cup water and peas in balance for 6 hours, then cook each vegetable separately until tender, adding salt when partly cooked. Drain, add

sugar to peas, also butter and onions, place over fire and toss with a fork until butter is melted. Place in a mound in center of hot chop plate, and lay broiled lamb chops round the peas.

Pea Soufflé

½ Cup pea meal.
1½ Cups Thin White Sauce. (See page 109.)
Salt and pepper.
3 Eggs.

Put sufficient dehydrated peas through food chopper to give the required amount. Mix with the sauce, which should be boiling hot. Remove from fire, add beaten yolks and seasonings. Whip the whites in a good-sized bowl and pour into them the pea mixture, stirring lightly until blended. Bake in buttered dish in moderate oven until there is no sound when you listen to it. Serve at once in same dish.

Pea Timbale

½ Cup pea meal made by grinding dehydrated peas in mill or food chopper.
3 Beaten eggs.
1 Tablespoon butter.
Salt and pepper.
1 Cup top of the bottle of milk.
1 Cup Thin White Sauce. (See page 109.)

Beat eggs slightly, add seasonings, melted butter, milk and pea meal, and mix thoroughly. Pour into buttered timbale molds, set them in a pan of hot

water, cover with a sheet of buttered paper, and bake in moderate oven until firm. Unmold on hot platter and surround with boiling hot white sauce.

Purée of Peas

1 Cup dehydrated peas.
4 Cups cold water.
Hot milk.
Sprig of mint.
Salt and pepper.

Soak and cook peas as directed until tender, then press through sieve. Add seasonings, and hot milk to dilute to a creamy consistency. Remove the mint when there is just a suspicion of its flavor. Serve with croûtons.

Potatoes

Preliminary Directions. — If the product was cooked before dehydrating, then no soaking is necessary; otherwise soak in proportion of 1 part dehydrated potatoes to 3 parts cold water for 6 hours, then cook in same water until tender, adding salt when partly cooked. The length of time required for cooking depends upon thickness of the slices.

Creamed Potatoes

1 Cup dehydrated potatoes.
3 Cups cold water.
⅔ Cup milk.
Flour.
Butter.
Salt and pepper.

Soak and cook as in Preliminary Directions. Drain and reheat in milk, dust lightly with flour, add butter and toss potatoes with a fork until milk is thickened. Season to taste and serve.

Escalloped Potatoes

1½ Cups dehydrated potatoes.
4 Cups cold water.
Milk.
Flour.
Butter.
Salt and pepper.

Soak potatoes in water for 6 hours, then drain. Have a buttered dish ready, place in a layer of potatoes, dust with flour, seasonings and dot with butter. Continue until all is used. Pour in sufficient milk to show, put cover on dish and cook in moderate oven until tender; remove cover and brown. Serve in same dish. Delicious.

Fried Potatoes

2 Cups dehydrated potatoes.
6 Cups cold water.
Salt and pepper.
Drippings or bacon fat.

Soak potatoes in water for 6 or 7 hours, then drain and dry with towel. Melt the fat, add potatoes, season and fry at *low temperature* until tender, about 30 minutes, then brown quickly.

Hashed-browned Potatoes

2 Cups dehydrated potatoes.
6 Cups cold water.
Salt and pepper.
Drippings.

Soak and cook as directed until tender, and drain. Melt drippings in frying pan, add seasoned potatoes and fry until browned on under side. Fold like an omelet on a hot platter.

Lyonnaise Potatoes

3 Cups dehydrated potatoes.
⅔ Cup dehydrated onions.
9 Cups cold water.
Salt and pepper.
Drippings.

Soak potatoes and onions separately in cold water for 6 or 7 hours, then drain and dry on towel. Melt the drippings in a deep frying pan, put potatoes and onions in alternate layers in pan, seasoning each layer. Cover pan and cook over slow fire until tender. Remove cover, increase heat and brown nicely.

Mashed Potatoes

3 Cups dehydrated potatoes.
9 Cups cold water.
Salt and pepper.
¼ Cup hot milk.
2 Tablespoons butter.

Soak and cook as directed. Drain and mash. Add hot milk, butter and seasoning. Beat with fork until very light. If the potato was cooked and mashed before dehydrating, then take the quantity desired, heat in double boiler with hot milk and butter, beating until light.

Pimiento Potato

1 Quart mashed dehydrated potato.
½ Cup canned pimientos, chopped fine.
3 Tablespoons butter.
Cream to moisten.
Salt and pepper.

Follow directions as given for Mashed Potatoes, adding butter, cream and pimientos, and beating mixture lightly with a fork. Heap in a mound in hot vegetable dish and serve. A pleasing accompaniment to roast beef.

Potato à la Andrea

3 Cups dehydrated potatoes.
10 Cups cold water.
⅔ Cup dehydrated onions.
4 Tablespoons butter.
Salt and paprika.

Soak onions in 1½ cups water for 6 hours, and potatoes in rest of the water. Cook potatoes until tender, adding salt when partly cooked, drain and set in oven, with cover lifted until dry and mealy. Dry onions on towel and sauté in butter until tender but uncolored. Place

spoonfuls of potato round broiled steak, and top each potato with some of the butter and onion, dust with paprika and serve.

Potatoes au Gratin

2 Cups dehydrated potatoes.
5 Cups cold water.
Salt and pepper.
1 Cup Thin White Sauce. (See page 109.)
⅔ Cup grated cheese.
Bread crumbs.
Butter.

Soak potatoes and cook as given in Preliminary Directions, drain. Place in buttered casserole in alternate layers with the white sauce, sprinkling each layer of sauce with some cheese. Cover top with cheese and over this the crumbs; dot with butter and brown in quick oven. Serve in same dish.

Potato Border

Prepare potato as directed for Mashed Potatoes, forcing through bag and star tube into a border round the meat. Potato may be browned or not.

Potato Cakes

Prepare potatoes as directed for Mashed Potatoes, shape into cakes and fry brown in bacon drippings.

Potato Omelet

4 Eggs.
3 Tablespoons butter.
4 Tablespoons milk.
Salt and pepper.
1 Cup creamed potatoes.

Chop the potatoes until quite fine and heat in double boiler. Separate whites and yolks, beat yolks until thick and lemon-colored, add milk and seasonings. Beat whites until stiff, pour yolk mixture into beaten whites and mix lightly. Melt butter without browning, pour in eggs and place over a slow fire; shake pan so that it is evenly covered. While cooking, lift edge and let the soft part on top run on the pan. When under side is browned, set in oven a minute to cook top. Place hot potatoes across center of omelet, fold, and slip it onto a heated platter. Decorate with parsley and serve. Particularly good if made with left-over Potatoes au Gratin.

Potato Puff

2 Cups dehydrated potatoes.
5 Cups cold water.
2 Eggs.
2 Tablespoons butter.
Salt and pepper.
$\frac{1}{3}$ Cup hot milk.

Soak and cook potatoes as directed, drain and mash. Add butter, hot milk and beaten yolks, mix thoroughly,

add seasoning and fold in the beaten whites. Pile on a buttered shallow baking dish and bake in quick oven until brown and puffed.

Potato Roses

Use as directed in recipe for Mashed Potatoes, adding sufficient milk or cream to allow potatoes to press easily through a tube. Insert rose tube in bag, place potatoes in bag and force through tube on to a buttered pan. Brush lightly with beaten egg and brown in oven. Lift each rose carefully off pan and place round a broiled steak as a garnish.

Pyramid Potatoes

2 Cups dehydrated potatoes.
5 Cups cold water.
Salt and paprika.
2 Tablespoons butter.
2 Tablespoons milk.
1 Beaten egg.

Soak and cook potatoes as directed, drain and mash. Add butter, milk, seasoning and egg. Mix thoroughly and shape with the hands into cones or pyramids. Place on buttered pan, brush over with melted butter and brown in quick oven. Lift off with broad-bladed knife and use as a garnish for meat.

Riced Potatoes

3 Cups dehydrated potatoes.
8 Cups cold water.
Salt.

Soak and cook as directed, drain and force through ricer into a hot vegetable dish.

Savory Potato Croquettes

3 Cups dehydrated potatoes.
9 Cups cold water.
1 Cup minced cold cooked meat.
1 Cup Thick White Sauce. (See page 108.)
1 Egg.
1 Teaspoon dehydrated parsley, crushed.
1 Tablespoon dehydrated onion.
1 Tablespoon butter.
Salt and pepper.
Bread crumbs.

Soak and cook potatoes as directed, drain and mash. Soak onion in a quarter cup water, drain, chop and sauté in butter. Add to meat, also crushed parsley, combine with potatoes, add seasonings, white sauce and egg. Mix thoroughly and set in ice box to chill. Shape into croquettes, roll in crumbs, then in egg beaten with 1 tablespoon cold water, and again in the crumbs. Fry brown in deep hot fat and drain on brown paper.

Sweet Potatoes

Preliminary Directions. — Soak in proportion of 1 cup sweet potatoes and 2 cups cold water for 4 hours. Cook in same water until tender, unless otherwise stated.

Candied Sweet Potatoes

3 Cups dehydrated sweet potatoes.
6 Cups cold water.
Brown sugar.
Butter.
Powdered cinnamon.
6 Tablespoons water.

Soak and cook sweet potatoes as directed until just tender. Drain and place in layers in buttered baking dish, sprinkling each layer with brown sugar, dust lightly with cinnamon and dot with butter. When all is used pour in the water and bake until browned. Serve in same dish.

Casserole of Sweet Potatoes

2 Cups dehydrated sweet potatoes.
5 Cups cold water.
4 Tablespoons butter.
½ Teaspoon salt.
Brown sugar.

Soak potatoes in cold water for 6 hours, then cook until nearly done, and drain. Grease a baking dish,

put in a layer of potatoes, dot with butter, sprinkle with salt and sugar, and continue until dish is full. Place cover on dish and bake in moderate oven until done, — about a half hour. A few minutes before serving remove cover and brown top.

Glazed Sweet Potatoes

2 Cups dehydrated sweet potatoes.
4 Cups cold water.
6 Tablespoons granulated sugar.
3 Tablespoons water.
2 Tablespoons butter.

Soak and cook the potatoes until nearly done, then drain and place in buttered baking dish. Make a syrup by boiling sugar and water for 3 minutes, remove from fire, add butter. When melted pour half the syrup over the potatoes and bake in moderate oven until tender. Baste while baking with rest of the syrup.

Spinach

Preliminary Directions. — Dehydrated spinach really requires no soaking, as it quickly absorbs water. Place in saucepan over fire, bring slowly to boiling point and boil gently until tender, adding salt when nearly done. Drain and serve as directed in following recipes.

Creamed Spinach

3 Cups dehydrated spinach.
4 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
Blade of mace.
Salt and pepper.
2 Hard-boiled eggs.

Cook spinach as directed, drain thoroughly, pressing out all the water, and chop. Add the mace to the sauce, reheat spinach and let boil gently for 5 minutes; remove mace and season to taste. Have ready the hard-boiled eggs, reserve yolks and chop whites until fine. Turn spinach into a shallow mound on a heated platter, sprinkle thickly on edge of mound with chopped whites, and press yolks over top through a coarse sieve, so that spinach is evenly covered with little yellow flakes. A very attractive and delicious dish.

Purée of Spinach

Cook as for Creamed Spinach and press through coarse sieve. Reheat until boiling, and serve on rounds of buttered toast. Garnish with slice of hard-boiled egg. An attractive way to serve it is to slip a poached egg in center of puree and serve as a luncheon dish.

Spinach en Croustades

Cut stale bread into slices $1\frac{1}{2}$ inches thick. Make an incision round the slice one-quarter inch from edge, and cut down nearly to the bottom of each slice, but

not through it. Scoop out the soft centers, leaving the cases empty, brush inside and out with butter, and brown in oven. The croustades are ready to be filled with the following: —

3 Cups dehydrated spinach.
4 Cups cold water.
1 Cup Thin White Sauce. (See page 109.)
2 Eggs.
Dash of nutmeg.
Salt and pepper to taste.

Cook spinach as directed, drain and chop coarsely and drain again. Reheat in white sauce, add seasonings and unbeaten yolks, mix thoroughly and cook a moment; remove from fire and fold in stiffly beaten whites. Fill each croustade full of spinach and set on platter in hot oven for 10 minutes. Serve as separate course, or use as a garnish round a roast.

Spinach Loaf

Cook sufficient dehydrated spinach (about 3 heaping cups) to give 2 cups when drained and coarsely chopped. Add three-quarters cup Thick White Sauce and 2 yolks, mix thoroughly and season with salt and pepper. Fill a greased and crumbed loaf mold and bake in moderate oven until firm to the touch. Unmold on a hot platter and serve with a Hollandaise Sauce. (See page 106.)

Spinach Soufflé

2 Cups dehydrated spinach.
3 Cups cold water.
½ Cup Thin White Sauce. (See page 109.)
3 Eggs.
Salt and pepper.

Cook spinach as directed, drain well and chop very fine. Reheat in seasoned white sauce and add yolks, one at a time, and mix each thoroughly before adding next. Remove from fire and fold in the stiffly beaten egg whites. Mix and pour into a buttered baking dish in a moderate oven until done. Serve at once in same dish.

Spinach Timbale

2 Cups dehydrated spinach.
3 Cups cold water.
2 Beaten eggs.
2 Tablespoons melted butter.
Salt and pepper.
Few drops lemon juice.

Cook spinach as directed, drain thoroughly and chop fine. Add beaten eggs, butter and seasonings. Turn into buttered molds (individual), set these in pan of hot water, cover top with buttered paper, and bake until firm to touch. Unmold and surround with Tomato Sauce. (See page 109.)

Spinach with Sour Dressing

Cover spinach with twice its bulk of cold water, boil as previously directed. Drain and reheat in 4 tablespoons butter, 2 tablespoons vinegar, and season to taste with salt and pepper. Serve in hot dish garnished with sliced hard-boiled eggs.

Squash

Preliminary Directions. — Allow 3 parts cold water to 1 part squash and soak about 8 hours, then cook until tender in same water, adding salt when partly cooked.

Squash au Gratin

3 Cups dehydrated squash.
9 Cups cold water.
1 Yolk.
2 Tablespoons butter.
1 Tablespoon milk.
Buttered crumbs.
Salt and pepper.

Soak and cook as directed, drain and mash. Add beaten yolk, butter, milk and seasonings, mix thoroughly, and heap in a mound on a gratin dish. Cover with buttered crumbs and brown in oven.

Mashed Squash

4 Cups dehydrated squash.
12 Cups cold water.
Salt and pepper.
4 Tablespoons butter.

Soak and cook as directed, drain thoroughly and mash. Add seasoning and butter, mix well and serve.

Squash Pie

Follow directions for making Pumpkin Pie.

Tomatoes

Preliminary Directions. — If the vegetable is to be made into sauce and soups it can be put through a hand mill after drying. This saves the time allowed for soaking, but where the tomato is to be used in other ways, the finished dish looks better if it is used in the slices. Soak in the proportion of 1 part dehydrated tomato to 2 parts of cold water for 5 hours, then cook in same water with a pinch of soda until done, and use as directed.

Tomatoes à la Creole

2 Cups dehydrated tomatoes.
5 Cups cold water.
¼ Cup dehydrated onions.
2 Tablespoons dehydrated green peppers.
1 Teaspoon dehydrated parsley.
Butter.
Salt and pepper.
Buttered crumbs.

Soak tomatoes, onions, green pepper and parsley in water for 5 hours, then add a pinch of soda, salt and pepper, and cook for 20 minutes. Drain off part of the liquid, but not dry, add butter, pour into a shallow baking dish, cover with crumbs and brown in a quick oven.

Baked Tomatoes

2 Cups dehydrated tomatoes.
6 Cups cold water.
Butter.
Salt and pepper.
Sugar.
Bread crumbs.

Soak in cold water, and cook in same water with a pinch of soda for 10 minutes. Drain, saving water. Place in baking dish in three layers, sprinkling each layer with salt, pepper, sugar and crumbs, and dotting with butter. When all the tomato is used add sufficient water in which they were cooked to make as moist as for stewing. Bake in moderate oven for three-quarters of an hour. Serve in same dish.

Fried Green Tomatoes

Sliced dehydrated green tomatoes.
Cold water.
Flour.
Salt and pepper.

Soak in cold water for 6 hours, then bring slowly to a boil and simmer for 5 minutes; drain and dry carefully.

Dust tomato with salt and pepper and dip into flour, place in frying pan with a little melted fat or olive oil, and cook slowly until browned and tender. Serve with steak as a garnish.

Pilaf (American Style)

$1\frac{1}{4}$ Cups dehydrated tomatoes.
$2\frac{1}{2}$ Cups cold water.
$\frac{1}{2}$ Cup uncooked rice.
4 Tablespoons butter.
Salt and pepper.
Pinch of soda if tomato is very acid.

Soak tomatoes in water for 4 hours, then cook for 20 minutes in same water. Wash and drain rice and brown it in half the butter, add to the tomatoes and cook until rice is tender; add seasonings and balance of butter. Heap on hot dish and serve. Pilaf when properly cooked should be dry, with each kernel of the rice separate. If necessary to stir while cooking, use a fork. This prevents rice from breaking.

Tomato Purée on Toast

1 Cup dehydrated tomatoes.
1 Tablespoon dehydrated onions.
6 Slices dehydrated mushrooms.
$1\frac{1}{2}$ Cups cold water.
Salt and pepper to taste.
1 Tablespoon flour.
2 Tablespoons butter.
Slices of bread toasted on one side.

Soak tomatoes and onions together in 1 cup of cold water and the mushrooms in rest of the water for 4 hours, then add seasonings to tomatoes and cook slowly for a half hour. Cook mushrooms in same water until tender, then drain and add the mushroom liquor to the tomatoes, and press tomatoes through a coarse sieve. Mix butter and flour to a paste and stir it into the strained tomato. Add cooked mushroom and let boil for a minute. Place the prepared slices on a hot platter with untoasted side up, cover each piece with some of the purée, placing the mushroom slice on top, and serve as a luncheon dish. Delicious.

Tomato Salad

Sliced dehydrated tomatoes.
Cold water.
French Dressing. (See page 111.)
Lettuce leaves.

Select the most perfect slices to serve this way and soak in cold water until plump. Be careful when handling that the soaked slices do not break. Have ready some leaves of crisp lettuce, arrange on individual salad plates, and place the restored tomato slices, after draining, on the lettuce. Pour French Dressing over and serve. To chill the tomatoes, let them stand in the ice box while soaking in the water, but do not expect them to be as firm and crisp as a fresh vegetable.

Stewed Tomatoes

2½ Cups dehydrated tomatoes.
5 Cups cold water.
2 Tablespoons dehydrated onions.
4 Tablespoons granulated sugar.
Salt and pepper.
2 Tablespoons butter.

Soak onions and tomatoes in water for 6 or 7 hours, then cook slowly for a half hour, add sugar and seasoning, and boil for 10 minutes longer. Stir in the butter and serve.

Tomatoes stewed with Corn

2 Cups dehydrated tomatoes.
1 Cup dehydrated corn.
6½ Cups cold water.
Salt and paprika.
4 Tablespoons butter.
1 Tablespoon granulated sugar.

Soak tomatoes for 6 hours in half the water, and corn in balance of water for same length of time. Then cook corn in same water until nearly tender, combine with tomatoes and simmer for a half hour. Add other ingredients and stir until butter is melted. Serve as a vegetable.

Turnips

Preliminary Directions. — Allow 1 cup dehydrated turnips to 3 cups cold water and soak for 2 hours, then cook in same water until tender, adding salt when half cooked. Drain and use in any of the following recipes.

Creamed Turnips

1½ Cups dehydrated turnips.
4 Cups cold water.
Salt.
1 Cup Thin White Sauce. (See page 109.)

Soak and cook as above, drain and reheat in sauce.

Escalloped Turnips with Potatoes

1½ Cups dehydrated potatoes.
¾ Cup dehydrated turnips.
2 Cups milk.
Salt and pepper.
Butter.
2 Tablespoons flour.

Soak vegetables separately in 3 times their bulk of cold water for 6 hours, drain. Place a layer of potatoes in buttered baking dish, dust with salt, pepper and flour, and dot with butter; then a layer of turnips, treating the same as potatoes. Continue in alternate layers until all are used. Add milk, using enough to

show through the top layer. Place cover on dish and bake in moderate oven until tender, — about 1 hour. Remove cover and brown top. Serve in same dish. Excellent combination to serve with mutton.

Glazed Turnips

1½ Cups dehydrated turnips.
4 Cups cold water.
Butter.
Sugar.
Cinnamon.
Salt.

Soak and cook turnips in the water until nearly done, drain and place in a layer in a shallow, buttered baking dish. Pour over melted butter, sprinkle with sugar, dust very lightly with salt and cinnamon, and bake in moderate oven until colored. Add a very little brown soup stock (beef) and cook until tender.

Mashed Turnips

2 Cups dehydrated turnips.
5 Cups cold water.
4 Tablespoons butter.
2 Tablespoons milk.
Salt and pepper.

Soak and cook as directed before. Drain and mash. Add butter, milk and pepper and mix well.

Turnips Roasted in Oven with Mutton

1 Cup dehydrated turnips.
3 Cups cold water.
Salt and pepper.

Soak turnips in water for 2 hours, cook until partly done in same water, then drain and dry with towel. Place round the meat and baste with gravy in pan, cook until tender, basting turnips every time the meat is basted. Serve as a garnish round the roast.

CHAPTER XV

RECIPES FOR USING DEHYDRATED FRUITS

The measurement for these products is "heaping" unless given by weight or otherwise stated.

The fruits are generally soaked in cold water and slowly cooked until partly done in the same water. Then drain, add sugar to juice, let this boil for several minutes, then add the partly cooked fruit and continue simmering until tender. The slower dehydrated fruits are cooked the richer and better looking will be the finished product.

A very slow oven or a fireless cooker prepares these foods the best. All of the larger fruits, such as dehydrated prunes, pears, apricots, peaches and plums, are delicious when cooked in the oven in a bean pot or casserole.

Time required to rehydrate fruits depends upon the condition and kind of product. While approximate time is given in the recipes, however, each cook must use her own judgment, and from personal experience determine the length of time the special kinds require.

I have used a dehydrated banana that required no soaking, as it was found to be sufficiently tender when prepared as the recipe stated. Again I have seen the same fruit when dehydrated by others to be quite hard, thus needing some time to rehydrate.

Desserts

Apple Filling for Cake

⅔ Cup dehydrated apple.
1⅓ Cups cold water.
Grated rind of ½ lemon.
Juice of 1 lemon.
1 Cup sugar.
1 Slightly beaten egg.

Soak apple in water for 2 hours, then cook until tender in same water, drain, and press apple through sieve; add other ingredients, return to fire and cook until thick. Cool and spread on layers while cake is still warm.

Apple Gems

⅔ Cup dehydrated apple.
⅔ Cup cold water.
1 Cup flour.
½ Cup granulated sugar.
½ Cup milk.
2 Teaspoons baking powder.
½ Teaspoon salt.
⅓ Teaspoon lemon extract.
2 Tablespoons melted butter.

Soak apples in cold water for several hours, then drain and cut into small pieces. Sift flour, sugar, baking powder and salt into a bowl, add milk, butter and flavoring. Beat mixture hard and then stir in the soaked apple. Fill buttered muffin pans two-thirds

full and bake in quick oven until done, — about 20 minutes. Serve hot as a dessert with Nutmeg Sauce. (See page 110.)

Apple Omelet, Baked

1½ Cups dehydrated apple.
1½ Cups cold water.
2 Tablespoons butter.
4 Tablespoons granulated sugar, or to taste.
3 Eggs.
3 Tablespoons powdered sugar.
1 Tablespoon flour.
¼ Teaspoon baking powder.
½ Teaspoon each lemon and vanilla extracts.

Soak apples in water for 6 hours, place in covered baking dish and bake covered until tender; then remove any liquid, add butter and granulated sugar to apples, and return to oven to keep hot. Beat yolks of eggs until thick and lemon-colored, add powdered sugar, flour, baking powder and salt, all sifted together, then flavoring, and mix thoroughly. Beat whites until stiff and fold them into yolk mixture. When blended, pour it over the hot apples, return to oven and bake until raised and brown. Serve hot as a dessert.

Apple Sauce Cake

1 Cup dehydrated apple.
1½ Cups cold water.
½ Cup granulated sugar.
¼ Cup butter.
1 Cup flour.
½ Cup raisins.
1 Egg.
½ Teaspoon soda.
½ Teaspoon cinnamon.
¼ Teaspoon cloves.
2 Teaspoons cocoa.
1 Teaspoon baking powder.

Soak apples over night in the water, then cook until soft in same liquid. Sweeten as for table use and press through a sieve; there should be three-fourths cup of apple sauce. Add soda to apple sauce and stir until it foams. Sift together the flour, cinnamon, cloves, cocoa and baking powder, then add raisins and stir until they are well floured. Cream butter and sugar, add beaten yolk, then apple sauce and sifted ingredients, mix thoroughly and fold in the stiffly beaten white. Bake in loaf tin lined with heavy greased paper, in moderate oven, about 45 minutes. This cake keeps well.

Baked Apples

⅔ Cup dehydrated diced apples for each one.
3 Tablespoons butter.
Sugar.
Cold water.

Place apples in bowl and cover with cold water. Let soak over night or for 8 hours. Drain and sweeten fruit to taste with granulated or brown sugar. Have ready a buttered baking dish, and arrange the soaked and sweetened apples in mounds. Place in moderate oven and bake until tender, basting while baking with butter melted in a quarter cup of boiling water. When done, lift apples carefully from pan to serving dish, dust lightly with powdered sugar while hot, and serve chilled.

Baked Apple Dumplings

Allow ½ cup dehydrated apple for each dumpling.
Cold water.
Sugar.
Grated nutmeg.
Pastry.

Use a cup of cold water to each cup of dehydrated apples and soak over night. Roll out pastry (recipe on page 190) on a floured board to an eighth inch in thickness, and cut into 4-inch squares. Drain water from apples, sweeten them to your taste, and heap mounds of the apple in center to each square; dust with a slight grating of nutmeg and fold the pastry over the apple, brushing edges of last corner of pastry with cold water and pressing into shape. Place on greased pan, prick each dumpling with a fork, and bake in moderate oven until apples are tender. Serve hot or cold.

Dehydrated Apple Cake

1 Cup butter.
2 Cups sugar.
3 Cups dehydrated apples.
2 Cups molasses.
1 Cup milk.
3½ Cups flour.
1 Teaspoon soda.
2 Cups raisins.
1½ Teaspoons baking powder.
¼ Teaspoon salt.

Soak apples over night in water to cover. Next morning drain, add molasses and cook slowly for 2 hours, then cool, and chop apples. Sift together the flour, soda, baking powder and salt. Cream butter, adding sugar gradually, then add the cooked apples and other ingredients. Mix thoroughly and bake in bread tins lined with greased paper, and bake in moderate oven about 1½ hours. This cake keeps well — if under lock and key. Makes two loaves.

Rice and Apple Pudding

1½ Cups dehydrated apple rings.
1½ Cups cold water.
¾ Cup hot boiled rice.
2 Cups milk.
3 Eggs.
1 Tablespoon melted butter.
½ Cup raisins.
⅓ Cup sugar.
1 Teaspoon lemon extract.
6 Tablespoons powdered sugar.

Soak apples in water for 5 hours, then drain. Mix together the rice, milk, yolks, butter, sugar, raisins and extract. Place half of the rice mixture in a baking dish, cover with apple rings, then with balance of rice. Bake in moderate oven until apples are tender. Remove from oven and cover with a meringue made by beating the whites until stiff and gradually adding the powdered sugar. Brown in moderate oven and serve cold.

Apricot Ice Cream

Follow directions and proportions as given in recipe for Peach Ice Cream.

Apricot Tapioca

1½ Cups dehydrated apricots.
1½ Cups cold water.
4 Cups milk.
1 Cup granulated sugar.
½ Cup tapioca (granulated).
3 Eggs.

Soak apricots over night in cold water, then cook until tender in same water; cool. Scald milk in double boiler, add sugar and tapioca, and cook for 15 minutes; add beaten yolks and mix well, remove from fire. When cold stir in the cooked apricots. Pour into serving dish and cover with meringue made from beaten whites and 6 tablespoons granulated sugar. Brown in quick oven and serve cold.

Banana Fritters

3 Whole dehydrated bananas.
1 Tablespoon lemon juice.
Powdered sugar.
1 Egg.
1 Cup flour.
¼ Cup sugar.
1½ Teaspoons baking powder.
¼ Teaspoon salt.
¼ Cup milk.
1 Tablespoon olive oil.
Deep hot fat.

Cut each banana crosswise into 3 pieces, sprinkle with lemon juice and powdered sugar, and let stand while preparing the batter. Sift salt, sugar, baking powder and flour into a bowl, add milk and beaten yolk, mixing to a smooth batter; add oil and lastly fold in the stiffly beaten egg white. Dip each piece of banana into the batter and fry in deep hot fat until a golden brown; drain on brown paper, dust with powdered sugar and serve with Ruby Sauce. If bananas are hard, cover with cold water and soak for several hours until softened; drain and pat dry with a clean towel, then continue as directed.

Boiled Cherry Pudding

1½ Cups dehydrated cherries.
3 Cups cold water.
1 Cup milk.
2 Beaten eggs.
3½ Teaspoons baking powder.
½ Teaspoon salt.
3 Cups flour.
½ Tablespoon lemon juice.

Soak cherries in cold water for 6 hours, then drain (save the water). Sift together flour, baking powder and salt, add milk slowly, then eggs, beating until batter is smooth. Add drained cherries and lemon juice and mix thoroughly, then pour into well-buttered mold, filling three-quarters full; cover top of mold with buttered paper, put cover of mold on, tie securely, and place in a saucepan of boiling water and boil steadily for 2½ hours. Add more boiling water as the water boils away. Water should come up as high on outside of mold as pudding does on the inside. Turn out on hot plate and serve with sauce made as follows: —

1½ Tablespoons cornstarch.
Water in which cherries were soaked.
Boiling water.
½ Cup sugar.
1 Egg white.

Add cherry water to cornstarch, and sufficient boiling water to give 1½ cups liquid. Stir this over the fire,

boiling it for 3 minutes, add sugar and stir until dissolved, mix in lightly the beaten white, and remove from fire. Serve hot in sauce boat.

Boiled Rhubarb Pudding

2 Cups sifted flour.
1 Teaspoon salt.
4 Teaspoons baking powder.
4 Tablespoons shortening.
¾ Cup (about) milk.
3 Cups dehydrated rhubarb.
4 Cups cold water.
Sugar to taste.

Place rhubarb in a bowl, cover with cold water and let soak for 8 hours, then add sugar and place in a shallow saucepan that has a cover which will fit tightly. Place over the fire and let boil slowly until rhubarb is partly cooked. Sift flour, salt and baking powder into a mixing bowl and cut in shortening with a knife. When fine, add milk slowly, still mixing with knife until mixture forms a soft dough. Turn out on a slightly floured board and roll out a half inch in thickness. Then cover fruit with rolled-out dough, fasten cover on saucepan and continue cooking for 12 minutes. Remove cover, lift off the pastry, and place on a serving platter. Pour over the rhubarb and serve at once with a Hard Sauce flavored with orange.

Bread and Fruit Custard

1 Cup dehydrated banana slices.
1 Cup dehydrated apple.
2 Cups cold water.
½ Cup sugar.
3 Cups hot milk.
½ Teaspoon salt.
3 Beaten eggs.
½ Cup raisins.
¾ Teaspoon lemon extract.
Thin slices of buttered bread.

Soak apples and bananas in cold water for 6 hours, then drain. Place in a buttered baking dish a layer of very thin slices of buttered bread, cover this with the drained fruit and raisins. Beat eggs slightly, add salt, sugar, hot milk and extract, mix thoroughly and pour it over the fruit. Set dish in pan of hot water and bake in moderate oven until custard is set.

Fruit Cup (Individual Portion)

1 Teaspoon dehydrated raspberries.
1 Teaspoon dehydrated strawberries.
1 Teaspoon dehydrated apples.
3 or 4 Slices dehydrated bananas.
3 or 4 Dehydrated cherries.
Cold water.
Sugar to sweeten to taste.
Orange juice.
1 Drop extract of lemon.

Place each kind of fruit in a very small receptacle, — after-dinner coffee cups are good. Barely cover with

cold water and let stand for several hours, then put all liquid in a small saucepan; add all fruit but bananas and bring very slowly to boiling point and then drain. Add sugar to juice, stir over fire until well dissolved, and boil a few moments. Put all fruit in one cup, add sufficient orange juice to flavor syrup, the lemon extract, and pour it over the fruit. Let stand until cold, then chill. Prepared in this way the dehydrated fruit is like the freshly picked product.

Filling for Jelly Roll Sponge Cake

1½ Squares unsweetened chocolate, grated.
6 Chopped dehydrated figs.
2 Teaspoons cornstarch.
½ Cup water.
¼ Cup granulated sugar.

Chop figs and let soak in cold water while making the cake. Then add cornstarch dissolved in a tablespoon water, chocolate and sugar, and cook all for 3 minutes, stirring constantly. Spread on cake while filling is still hot.

Loganberry Soufflé

2 Cups dehydrated loganberries.
2 Cups cold water.
1 Cup granulated sugar, or to taste.
1 Cup milk.
3 Tablespoons butter.
8 Tablespoons flour.
⅛ Teaspoon salt.
2 Eggs.
2 Tablespoons granulated sugar.
¾ Teaspoon vanilla.

Soak berries in water over night. Next day cook in same water until tender, add sugar, and continue boiling until mixture is beginning to thicken; then cool. Melt butter in a saucepan, add flour and half the milk, and stir mixture over the fire until it coats the saucepan; remove from fire, cool, and add very slowly the balance of the milk. When smooth stir in sugar, vanilla and beaten yolks. Mix thoroughly and fold in the stiffly beaten whites. Pour cooked loganberries in a baking dish, and over them the soufflé mixture, and bake in a quick oven about 35 minutes. Serve hot with thin cream, or cold with whipped cream. Delicious with strawberries or raspberries instead of loganberries.

Peach Ice Cream

½ Pound dehydrated peaches.
Cold water to cover.
1¾ Cups granulated sugar.
½ Pint heavy cream.
3 Cups thin cream.
1 Teaspoon almond extract.

Soak peaches in cold water over night, then cook until soft, and press through a sieve. Add sugar while pulp is hot and stir until it is dissolved, then chill. When cold, stir the thin cream into the peach pulp, add flavoring, and pour into the freezer can which has been packed with cracked ice and rock salt in proportions of 3 parts ice to 1 part salt. Let this stand for 5 minutes, then start freezing. Have the heavy cream whipped, and when the mixture is partly frozen add

whipped cream and continue until frozen. Remove dasher and pack freezer with salt and ice and let stand for 2 hours to ripen.

Peach Shortcake

5 Tablespoons butter.
1 Cup sugar.
½ Cup milk.
¼ Cup cornstarch.
1½ Cups flour.
3 Teaspoons baking powder.
2 Eggs.
½ Teaspoon almond extract.
3 Cups dehydrated peaches.
3 Cups cold water.
1 Cup granulated sugar.
Whipped cream.

Soak peaches in water over night, and next morning simmer until nearly tender. Do not let them become broken. Add 1 cup sugar and stir until dissolved, continue cooking until tender, and then chill. Sift together flour, cornstarch and baking powder. Cream butter and sugar, add beaten yolks, then sifted ingredients alternately with the milk; add flavoring and fold in the beaten whites. Bake in greased layer cake tins in quick oven. Drain the peaches from syrup. Flavor and sweeten the whipped cream with some of the syrup (balance of syrup can be used as a pudding sauce, or with cracked ice and ice water as a beverage). Place a layer on a serving dish, cover with part of the

drained peaches, then with part of the cream. Continue with each layer, having top one heaped with the whipped cream. Serve as soon as put together. Makes a three-layer shortcake.

Potato Flour Cake

4 Eggs.
1 Cup granulated sugar.
½ Cup potato flour.
2 Teaspoons baking powder.
1 Tablespoon white flour.
1 Teaspoon vanilla.
¼ Teaspoon salt.

Separate yolks and whites, beat yolks until thick and lemon-colored, then add half the sugar and beat mixture for 5 minutes. Add salt to the whites and beat until stiff, adding balance of sugar gradually while beating. Combine with yolk mixture, and when well blended add baking powder sifted with white flour, potato flour and vanilla, and mix thoroughly. Bake in two layers in moderate oven. When cold put together with strawberry filling.

Prune Pudding

2 Cups dehydrated prunes.
2 Cups cold water.
2 Cups milk.
4 Tablespoons cornstarch.
1 Tablespoon butter.
3 Beaten eggs.
¾ Cup sugar, or to taste.
½ Teaspoon nutmeg.

Soak prunes over night in cold water, cook until tender, strain and remove stones. Dissolve cornstarch in a little milk, heat balance of milk, add cornstarch, sugar and butter, and cook, stirring constantly, for 5 minutes. Add beaten eggs and bring to boiling point; add flavoring and prunes, remove from fire, pour into a buttered dish, and bake in moderate oven for from 15 to 20 minutes. Serve hot.

Pumpkin Pie

2 Cups dehydrated pumpkin.
6 Cups cold water.
3 Cups milk.
2 Beaten eggs.
1¼ Cups sugar.
1 Teaspoon ground cinnamon.
1 Teaspoon ground ginger.
¾ Teaspoon salt.

Soak pumpkin over night in cold water and boil tender in same water. Drain and press through sieve. Add milk, sugar, eggs and seasonings to pumpkin and mix well. Line greased pie dish with pastry, pour in mixture, and bake in moderate oven until custard is set. Proportions give two medium-sized pies.

Pumpkin Timbale

⅔ Cup dehydrated pumpkin.
2 Cups cold water.
⅓ Cup sugar, or to taste.
2 Slightly beaten eggs.
⅔ Cup milk.
½ Tablespoon cornstarch.
Pinch of salt.
Grated nutmeg.

Soak pumpkin in cold water over night, then cook in same water until tender. Drain and press through a sieve. When cool add salt, sugar, milk and eggs, and cornstarch dissolved in a tablespoon of milk. Mix thoroughly and flavor with grated nutmeg. Butter a timbale mold, pour in pumpkin mixture, set pan in a dish containing hot water, and bake in moderate oven until timbale is set. When baked, unmold on a serving dish and set aside until cold. Serve as a dessert with whipped cream sweetened and flavored with ginger extract. May be baked in individual molds instead of the large one.

Rhubarb Dainty

2 Cups dehydrated rhubarb.
2 Cups cold water.
1 Cup sugar, or to taste.
1 Tablespoon cornstarch.
⅛ Teaspoon salt.
¼ Teaspoon vanilla.
3 Egg whites.

Soak rhubarb in cold water over night, then cook tender in same water. Dissolve cornstarch in a little cold water, add to rhubarb, also sugar, and boil, stirring constantly for 5 minutes. Remove from fire and cool. Add salt to egg whites and beat until very stiff; add rhubarb mixture and vanilla and fold in lightly. Heap into glass serving dish and chill. Decorate with whipped cream just before serving.

Rhubarb Mold

1 Cup dehydrated rhubarb.
1 Cup cold water.
1 Tablespoon granulated gelatine.
2 Tablespoons cold water.
3 Eggs.
Sugar to taste.
2 Slices dehydrated lemon.

Put rhubarb to soak over night in cold water, and the lemon in 2 tablespoons of cold water. In the morning squeeze the juice from lemon, add it to rhubarb with sufficient sugar to sweeten, and cook in water it was soaked in, until very soft. Soak gelatine in 2 tablespoons cold water for 10 minutes, then add it to rhubarb and stir until dissolved. Beat yolks until thick, add to rhubarb, mix well and set aside until it begins to congeal; then mix in lightly the beaten egg whites. Pour into mold, rinsed with cold water, and set on ice until firm. Unmold on serving dish and decorate with sweetened whipped cream and any seasonable fresh fruit.

Rhubarb Pie

PASTRY

1½ Cups sifted flour.
½ Teaspoon salt.
½ Cup shortening.
Ice water (about ⅓ cup).

Sift flour and salt into mixing bowl, add shortening, and cut it in with a knife until it is very fine; then add ice water gradually, mixing with knife into a firm dough. Chill pastry, then roll out on a slightly floured board an eighth inch thick.

FILLING

2 Cups dehydrated rhubarb.
2 Cups cold water.
Sugar to sweeten.
1 Tablespoon flour.

Soak rhubarb all night in cold water, drain and sweeten. Line a greased pie plate with pastry, pour in the sweetened rhubarb, sprinkle with flour and cover top with strips of pastry. Bake in moderate oven until rhubarb is cooked and pastry browned.

Stewed Cranberries

3 Cups dehydrated cranberries.
3 Cups cold water.
1½ Cups sugar, or to taste.

Soak cranberries in cold water for 5 hours, add sugar and cook slowly until berries are tender.

Stewed Pears

1 Pound dehydrated pears.
Cold water.
1 Cup sugar.
3 or 4 Slices dehydrated lemon.

Place pears in bowl, cover with twice their bulk of cold water, and soak over night. Add sugar and lemon (soaked in 4 tablespoons cold water), and simmer over a slow fire until pears are tender.

Stewed Rhubarb

1 Pint dehydrated rhubarb.
1 Pint cold water.
Sugar to taste.

Soak rhubarb in water over night. Next morning add sugar and cook in oven until done.

Strawberry Filling

1 Cup dehydrated strawberries.
1 Cup cold water.
1 Cup sugar.
1 Egg white.

Soak strawberries in water for several hours, then cook until very soft and reduced to 1 cupful. Press through strainer and chill. Beat white until stiff, add sugar gradually while beating, then add strawberries

a little at a time, and beat mixture for 15 minutes. Makes a delicious filling for cake, and may also be served as a dessert in thin glasses in alternate layers, with sweetened whipped cream.

Strawberry Whip

2 Cups dehydrated strawberries.
1½ Cups cold water.
½ Cup heavy cream.
2 Egg whites.
1 Cup granulated sugar.
1 Teaspoon vanilla extract.
Lady fingers.

Soak berries in cold water for 5 hours, then simmer in same water until tender. Drain berries and reserve a half dozen of the largest. Add sugar to the liquid and boil down the syrup; add berries to syrup and simmer until tender, then press through a sieve and chill. There should be 1 cup of pulp. Beat whites until stiff, add gradually the strawberry pulp, and continue the beating. Whip cream and add gradually to strawberry mixture, add flavoring and chill. Place several lady fingers cut in halves in tall, slender glasses, fill with chilled strawberry whip, and decorate top with the reserved strawberries which have been sweetened with powdered sugar. Serve at once so cake will not soften.

Sweet Potato Pie

1¼ Cups coarsely ground sweet potato flour.
2 Beaten eggs.
1½ Cups milk.
⅓ Cup sugar, or to taste.
½ Teaspoon salt.
1½ Teaspoon cinnamon.

Beat eggs slightly and add milk. Mix together the sugar, salt, cinnamon and sweet potato flour. Add egg mixture and mix well. Line a greased pie tin with pastry rolled out to an eighth inch in thickness, pour in custard, and bake in moderate oven until custard is set.

Jellies

Cranberry Jelly

2 Cups dehydrated cranberries.
2½ Cups cold water.
1½ Cups granulated sugar (or to taste).

Soak cranberries in cold water for 4 hours, then simmer until berries are very soft, strain, pressing berries so nothing but skins remain in strainer. Boil juice and pulp for 12 minutes, add sugar, stirring until dissolved, then boil until the syrup "jells." Pour into molds rinsed in cold water and set aside until firm.

Mint Jelly

½ Cup dehydrated mint leaves.
2 Cups cold water.
1¼ Tablespoons granulated gelatine.
2 Tablespoons boiling water.
½ Cup cider vinegar.
½ Cup granulated sugar.
Pinch of salt.

Soak mint leaves in cold water for 2 hours, then simmer in same water for 10 minutes and strain. Soak gelatine for 5 minutes in cold water, and dissolve in hot mint liquid. Add salt, sugar and vinegar. Pour into shallow mold, rinsed in cold water, and set aside until firm. Remove from mold, chop coarse, and use as a decoration round cold sliced lamb.

Canning and Preserving Dehydrated Products

Perhaps our summer has been spent in dehydrating our supply of fruits, and winter finds no shelves of canned fruits, sparkling jellies, delicious jams, marmalades and all the other good things that we have become accustomed to.

But with our stock of dehydrated fruits we may have some of them canned, make conserves, jams, marmalades of others, yes, and jellies and pickles too. And best of all, both our dehydrating and, later on, our canning may be done in comfort, for dehydrating is carried on at a low temperature; consequently, the

kitchen is not overheated, and in winter, when our dehydrated product may become a canned one, we are very glad of the extra heat.

Whoever spent a really comfortable day canning and making all the other goodies in hot summer weather? Standing over the fire carefully stirring the kettle of jam can be comfortably done, however, when the snow is on the ground, and not when old Sol is doing his utmost to make the work a martyrdom. So do not think that because your fruits are in a dehydrated stage you are barred from enjoying them as of yore. No, indeed; the dried product gives an excellent canned or jellied one, and this is equally true of the other forms of preserves, such as jams and conserves.

ADDENDA

Practical Suggestions

Dehydrated products do not restore satisfactorily until they have been out of the dehydrator for 24 hours. This is probably because the cells are tired and need a little rest and recuperation, for even "inanimate" matter becomes exhausted.

Be careful not to UNDER-DRY, for if free moisture is left in, molding is apt to ensue.

Approximate time-tables have been given, but, as explained with them, the times indicated are approximative only, or, in plainer term, elastic. Climate, soil, season, altitude, thickness of slices or pieces, water content, age of produce are all factors requiring consideration, but with a little practice one is soon able to tell by the "feel" whether dehydration is completed or not, and the test suggested previously for free moisture is a safe guide always. Generally speaking, products should be leathery and just past the free moisture stage. If dried in machine to crisp or brittle stage, restoration and quality are doubtful. Most products will harden during the conditioning period, which is as it should be.

If a batch of fruits or vegetables should prove insufficiently dehydrated after removal from dryer, replace until really finished — in low temperature at first, and when material is well warmed through raise the temperature to maximum for that particular product.

Dehydrate in dry weather if possible. This applies to packing away also.

ADDENDA

Dehydrators, large or small, should be thoroughly cleaned and sterilized at frequent intervals.

Produce must be cubed, sliced or stripped uniformly, otherwise part of the dehydrator's contents will be ready to come out before the rest is done, resulting, perhaps, in both under and over drying.

Moist air is always best in the dehydrator during the first quarter or third of the process.

It is best to cut glutinous material into thin slices or fine strips — bell peppers and okra, for example. While such things may be dehydrated whole or in large sections, it takes very much more time. As a matter of fact, the finer all materials are cut, the greater will be the saving of time, fuel and attention. Output will be increased also, as the dehydrator can be filled and emptied more frequently.

With a view to the appearance of finished product, two agents are employed by some operators to prevent discoloration, namely, sulphur and carbonic acid gas. The latter was in vogue many years ago, having been employed in the old-style drum dryers, coke being the source usually.

Drying times for potatoes vary greatly according to age of vegetable.

When piling trays, allow for circulation of air and liberation of moisture. Slices should not lie closely on top of each other.

Stems must be removed from leaves of spinach and the like before drying, but can be mixed later, after separate drying. With cabbage, the thick midrib should be cut from leaf and sliced before drying.

Flavoring herbs, mint, etc., should not be blanched, as thereby they lose much of their volatile properties.

Restoring and cooking are very important considerations. Do not drown products by using too much water for restora-

tion, but see that there is sufficient for full absorption, and a little more. Cook the products in the same water in which they were restored, as directed in recipe section.

In dehydrating large quantities there will necessarily be a good deal of broken pieces and scraps. These may be dried and mixed for soup stock.

Before attempting to market various runs, test samples for restoration and other qualities.

Be careful to keep containers insect-proof. Bags and packages must have no holes, and must be kept securely sealed. It is well to coat with paraffin after sealing. If glass jars and crocks are used, they must be tightly covered.

As volatiles and other essentials are retained through dehydration, this process may become an important factor in the manufacturing of perfumes. Tests are being made now, in my experimental kitchen, with flower petals and other materials, to determine whether they can be dehydrated and used later for perfume making, when and as convenient.

Fruit juices are being dehydrated and used in powder form for flavorings.

Vegetable Colorings. — Pure vegetable colorings are made by grinding spinach, beets, carrots, etc., to powder after dehydration.

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